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# THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—41ST YEAR

SYDNEY, SATURDAY, AUGUST 14, 1954

No. 7



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## Table of Contents.

[The Whole of the Literary Matter in THE MEDICAL JOURNAL OF AUSTRALIA is Copyright.]

ORIGINAL ARTICLES—	Page.	ON THE PERIPHERY—	Page.
Anal and Rectal Abscesses and Fistulae, by Edward Wilson, M.D., M.S., M.Sc., M.R.A.C.P., F.R.C.S., F.A.C.S., F.R.A.C.S.	237	The Enigma of the Mona Lisa Smile . . . . .	266
Social Factors in Rheumatic Heart Disease, by Joan Lupton, M.A., A.M.I.A.	245	<b>MEDICO-LEGAL—</b>	
Variations in Sizes of Leucocytes in a Blood Smear due to Differences in Osmotic Loss of Water, by A. J. Christophers, M.B., B.S., B.Sc.	251	Inquiry by the Disciplinary Tribunal in New South Wales . . . . .	267
The Results of Surgical Treatment of Bronchiectasis, by J. A. Simpson . . . . .	252	<b>BRITISH MEDICAL ASSOCIATION NEWS—</b>	
<b>REPORTS OF CASES—</b>		The Australian Society of Allergists (British Medical Association) . . . . .	271
Large Chronic Gastric Ulcers. A Report of Two Patients, by R. T. W. Reid . . . . .	254	<b>MEDICAL SOCIETIES—</b>	
<b>REVIEWS—</b>		Medical Sciences Club of South Australia . . . . .	271
Clinical Medicine in General Practice . . . . .	256	<b>OUT OF THE PAST . . . . .</b>	271
Experimental Surgery . . . . .	256	<b>CORRESPONDENCE—</b>	
History of the Second World War: United Kingdom Medical Series. Surgery . . . . .	256	The New South Wales Board of Health and the Medical Disciplinary Tribunal . . . . .	272
Isotopic Tracers in Biochemistry and Physiology . . . . .	257	Rubella (German Measles, Rothein, Rubeola) . . . . .	272
Outlines of Industrial Medicine, Legislation and Hygiene . . . . .	257	Writing to the Daily Press . . . . .	272
Textbook of Gynecology . . . . .	257	Coronary Occlusion . . . . .	273
Diseases of the Digestive System . . . . .	257	The Training of Medical Students . . . . .	273
Medicine in Oxford . . . . .	258	National Health (Pharmaceutical Benefits) Regulations . . . . .	273
<b>BOOKS RECEIVED . . . . .</b>	258	An Experience with Cardiac Massage . . . . .	274
<b>LEADING ARTICLES—</b>		Registration of Medical Practitioners in New South Wales . . . . .	274
The Younger Men of Medicine . . . . .	259	Carcinoma of the Rectum and Colon . . . . .	274
<b>CURRENT COMMENT—</b>		<b>UNIVERSITY INTELLIGENCE—</b>	
A New Type of Treatment in Barbiturate Poisoning . . . . .	260	The University of Sydney . . . . .	275
Fatigue . . . . .	260	<b>DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA . . . . .</b>	275
The Hemolytic States . . . . .	261	<b>MEDICAL APPOINTMENTS . . . . .</b>	275
Attempted Suicide with Insulin . . . . .	262	<b>NOMINATIONS AND ELECTIONS . . . . .</b>	276
Myxomatosis: The Present Position . . . . .	262	<b>DEATHS . . . . .</b>	276
Boeck's Sarcoid of the Lung . . . . .	263	<b>DIARY FOR THE MONTH . . . . .</b>	276
The Townsville Medical Conference . . . . .	263	<b>MEDICAL APPOINTMENTS: IMPORTANT NOTICE . . . . .</b>	276
<b>ABSTRACTS FROM MEDICAL LITERATURE—</b>		<b>EDITORIAL NOTICES . . . . .</b>	276
Ophthalmology . . . . .	264		
Oto-Rhino-Laryngology . . . . .	265		

### ANAL AND RECTAL ABSCESSSES AND FISTULÆ.

By EDWARD WILSON, M.D., M.S., M.Sc., M.R.A.C.P., F.R.C.S. (England), F.R.C.S. (Edinburgh), F.A.C.S., F.R.A.C.S.,

Sydney.

THE management of patients suffering from abscesses and fistulae of the rectum and anus no longer presents the difficulties that confronted the surgeons of the pre-anæsthetic era; but continuance of the belief that operation may be followed by recurrence or by incontinence of faeces would appear to indicate that these complications have not been abolished in all cases.

It is interesting to note that Salmon founded St. Mark's Hospital, London, for the treatment of "fistula and other diseases of the rectum" in 1835—that is, nine years prior to the first trial of general anæsthesia for surgical purposes. According to Allingham (1888), an anæsthetic is advisable for an operation on an anal fistula, otherwise the patient "may draw up the buttocks and the sphincter becomes contracted". Allingham then goes on to state that "If the patient refuses to take an anæsthetic, unless I am convinced he is very strong-minded, I positively refuse to operate. I always explain that to do so is not fair either to him or to myself".

In this paper an attempt will be made not to discuss the desirability or type of anæsthesia, but to show that recurrence of the condition and incontinence of faeces need not be expected. These complications have been so feared in the past that occasionally one still hears of the advice being given that the patient with an anal fistula and only minimal symptoms should not be submitted to operation. While it is probably true that very rarely a simple fistula does heal spontaneously, this result should not be awaited. In general, the longer the delay, the greater the complexity of the fistulous tracks and the more extensive any subsequent operation. In addition, the development of a carcinoma in a long-standing fistula is not unknown.

#### Anatomy.

After a great number of dissections, Thompson (1899) described the three divisions of the external sphincter and described the important part the pubo-rectalis muscle plays in maintaining continence of the bowel. He also demonstrated that there was little thickening of the circular muscle of the anal canal to form the so-called internal sphincter. Since then, Milligan *et alii* (1934, 1937, 1943) have described the anatomy of the ano-rectal region in greater detail, and have shown the importance of Thompson's findings in the treatment of ano-rectal fistulae.

It is only since this work of Milligan and his colleagues that Thompson's description of the anal musculature has found its way into anatomy text-books; but it is not yet



universally accepted in all surgical works. For example, operations are still described for the treatment of incontinence of faeces in which little more than the subcutaneous part of the sphincter is repaired. Any improvement following such an operation must be due to narrowing of the anal canal, such as results from Thiersch's and Saraoff's operations.

This lack of understanding of the anal musculature is shown when some authors recommend division of an anal sphincter in an oblique manner and avoid a transverse division at all costs, whereas others advocate the opposite. If the anal sphincter consisted solely of its circular, umbrella ring-like, subcutaneous portion, then division of

ever, the sooner the abscess is opened, the sooner the patient will be comfortable, and further destruction of the anal musculature and spread of the infection will be prevented.

The ischio-rectal and perianal spaces are the two divisions of the ischio-rectal fossa which are separated from each other by the septum extending laterally from the longitudinal muscle of the anal canal; but the difference between perianal and ischio-rectal abscesses is one that is not always recognized. It depends on the anatomical position of the abscess, and even in the early stages the superficial or deep position of the inflammation should be obvious. From these abscesses the spread of infection is

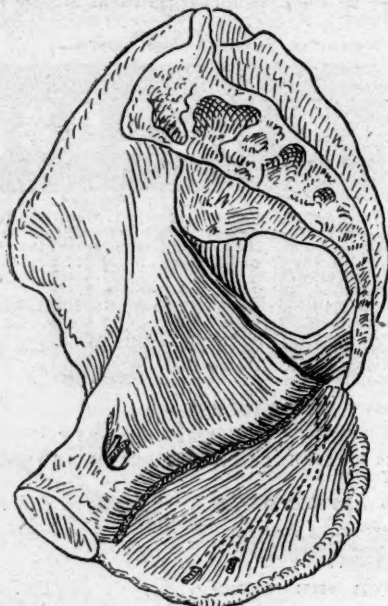


FIGURE I.

Drawing from Thompson (1899), to show the attachment of the iliococcygeus part of the levator ani muscle to the iliopectineal line through the tendinous arch from the pubic bone to the ischial spine. (The posterior border of the iliococcygeus is shown as a heavy line.)

it in any direction would prevent its acting as a sphincter; and, even with an oblique division of this portion of the sphincter, there would be little or no chance of the ends being pulled together by the healing scar tissue. The confusion of thought is also shown when one author (Miles, 1944) states that "great care should be taken not to inflict damage upon the underlying external sphincter muscle" when discussing the treatment of perianal abscess, and then in another chapter states that the "external sphincter is generally completely divided during an operation for fistula without ill effect".

#### Abscesses.

It often happens that treatment of an ischio-rectal abscess is considered to be a minor matter and is left to the care of the casualty medical officer. Almost equally often it happens that the patient subsequently develops an anal fistula. Instead, such an abscess requires more expert attention. For years the teaching has been that the sooner an ischio-rectal abscess is opened the better, lest it rupture into the bowel and a fistula develop. Since it is now realized that spread of infection from the bowel and not in the reverse direction is nearly always the cause of an anal fistula, the need for urgency in treatment is lessened. How-

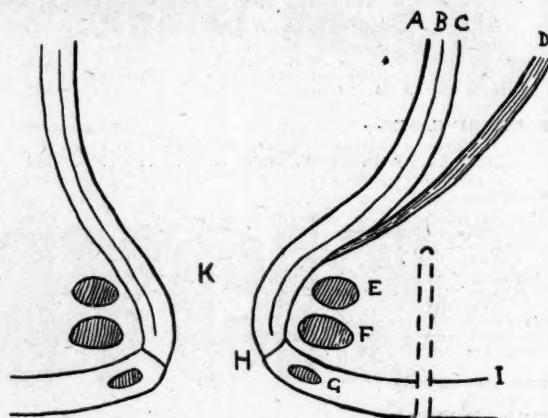


FIGURE II.

Sagittal section of the anal canal and the lower end of the rectum. A, mucosa; B, circular muscle; C, longitudinal muscle; D, levator ani muscle; E, F, G, deep, superficial and subcutaneous portions of the external sphincter; H, intermuscular region with attachment of portion of the longitudinal muscle to the mucosa; I, septum of the ischio-rectal fossa extending laterally from the longitudinal muscle; K, ano-rectal ring. A "blind external fistula" limited to the ischio-rectal fossa is shown. Such a lesion occurs only after a penetrating injury. The same also applies to "blind external fistulae" which extend upwards through the levator ani muscle.

usually downwards; that is, typically an ischio-rectal abscess extends downwards through the perianal space to the skin, and only in very rare instances does it extend upwards through the levator ani muscle. Laterally, it is not possible for the abscess to extend upwards through the "hiatus of Schwalbe" to the region above the levator ani muscle. According to McGregor (1932), the hiatus of Schwalbe is the space between the tendinous arch, which is attached to the pubic bone in front and to the ischial spine behind, and which gives origin to the levator ani muscle. Thompson (1899) had previously shown that the levator ani muscle was continued upwards through this tendinous arch as a sheet of fascia, which was attached to the ilio-pectineal line (Figure I). That is, above this tendinous arch the obturator internus muscle is covered both by its own fascia and by this special sheet of fascia. These two layers of fascia fuse together and effectively limit the spread of infection upwards in this region. In addition, the upward spread of infection from the ischio-rectal fossa is prevented by the fascia lunata of Elliot Smith, which is the deep fascia on the upper surface of the fat of the fossa. It is also rare for an abscess starting in the ischio-rectal space to extend into the bowel. Similarly, a perianal abscess typically extends downwards to the skin, and less often does it extend upwards into the ischio-rectal space or into the anal canal.

Apart from extension from the ischio-rectal space, a perianal abscess may follow infection of a perianal hematoma, or it may follow infection of the tissue underlying a fissure.



Infection of the ischio-rectal space is often stated to be haematogenous in origin; but in the absence of a haematoma there is little proof of this. More often it

anal canal or from an impacted foreign body in the anal canal, or it follows the injection of a long-acting local anæsthetic agent.

The chief practical difference between perianal and ischio-rectal abscesses is that incision of a perianal abscess is much less likely to be followed by a fistula than is incision of an ischio-rectal abscess. This is, of course,

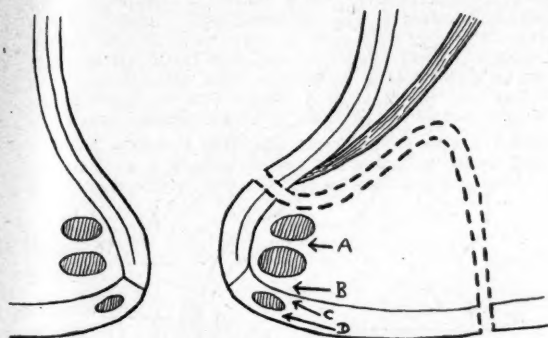


FIGURE III.

Ischio-rectal fistula with the internal opening between the puborectalis and the deep part of the external sphincter. A, B, C and D, other possible paths of the fistulous track to the bowel. The relationship of the inner part of this track to the lower surface of the levator ani muscle and its path upwards from the internal opening will be noted. This relationship and direction are often retained with other ischio-rectal fistulae, even if the internal opening is at one of the lower sites.

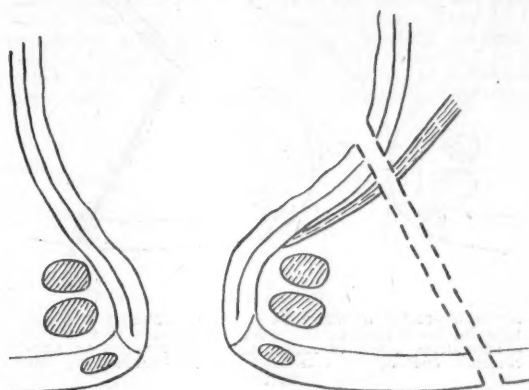


FIGURE V.  
Pelvi-rectal fistula.

related to the difference in ætiology. Except when it follows the injection of a long-acting anæsthetic agent, an ischio-rectal abscess already has an actual or potential communication with the bowel which the perianal abscess does not possess. No matter what incision is used to drain an ischio-rectal abscess, a fistula is to be expected if any internal opening into the bowel is allowed to

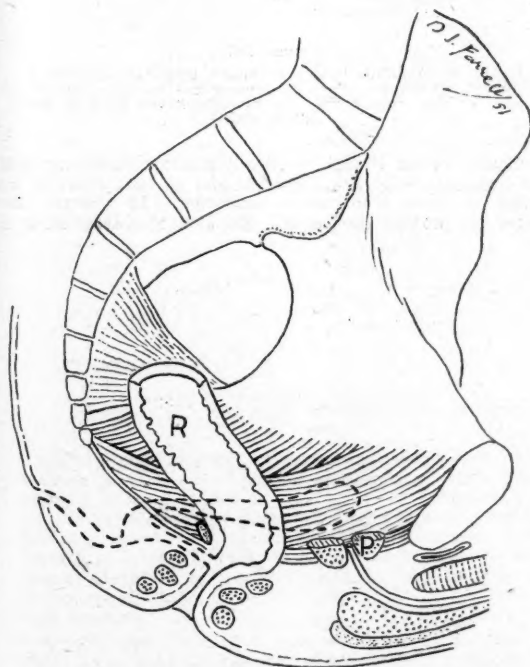


FIGURE IV.

Ischio-rectal fistula with the internal opening between the deep portion of the external sphincter and the puborectalis, the external opening behind the anus, and with an anterior prolongation forwards on the left side almost to the pubic bone.

arises from infected intramuscular glands of the anal canal, from an infected lymphangitis or thrombophlebitis of the veins draining into the anal canal, from an ulcer immediately above a stricture, from an abrasion of the

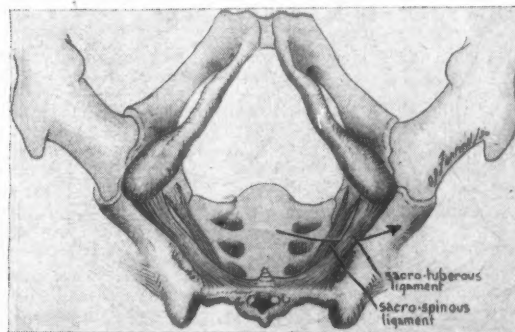


FIGURE VI.

The posterior prolongation of the ischio-rectal fossa between the sacrospinous and the sacrotuberous ligaments and under the edge of the *gluteus maximus* muscle is indicated by the arrow. Normally, the fossa is enclosed posteriorly by a well-defined layer of fascia passing between the lateral edges of these two ligaments. However, in a case of chronic ulcerative colitis a fistulous track has been found passing along the course of this arrow and out into the region of the greater trochanter of the femur (Wilson, 1953).

remain. The wound may then fail to heal, thus producing a fistula, or the healing may appear to be satisfactory and complete, and only subsequently do repeated abscesses and a fistula appear.

Accordingly, if the internal opening is not found at the first operation, search should be made for it under anaesthesia in two weeks' time and at intervals thereafter till it is discovered. In some cases the internal opening is not

apparent at the first operation, but is so obvious at a subsequent search that it must have become enlarged in the interim. Occasionally difficulty in finding the internal

before drainage is complete than when a single incision is used. For the treatment of an ischio-rectal abscess the abscess cavity should be "de-roofed" and "saucerized". The wound must, as has already been mentioned, include the internal opening into the bowel if this is found. The

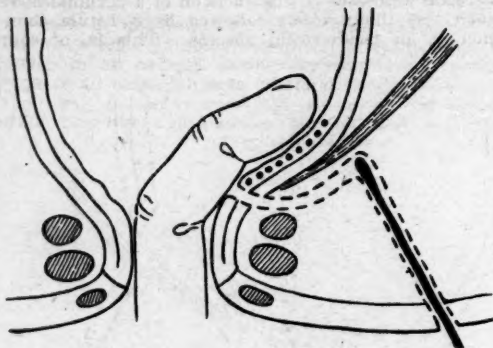


FIGURE VII.

An ischio-rectal fistula with the track running upwards near the lower surface of the levator ani muscle, and with a submucous track extending upwards from the primary internal opening to a second opening further up the rectum.

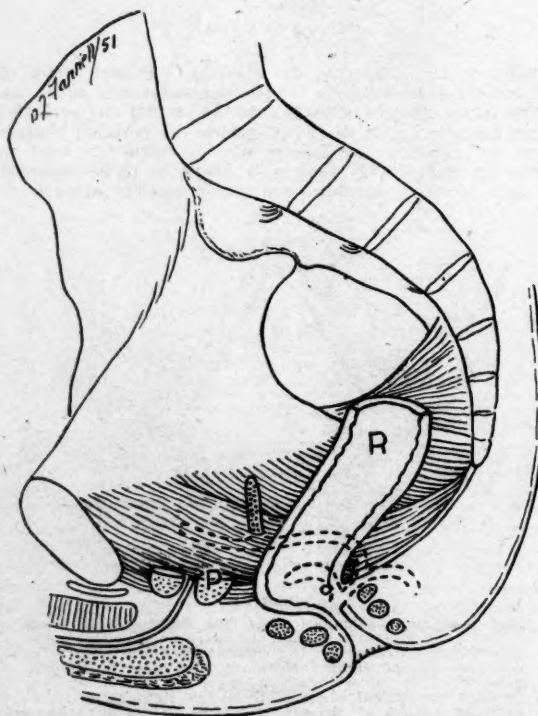


FIGURE VIII.

Ischio-rectal fistula, which extended upwards through the substance of the pubococcygeus, in the submucous space on the same side, and into the opposite ischio-rectal fossa.

opening is experienced when the search for it is made too high in the bowel.

A cruciate or T incision with excision of the wound corners is recommended for the drainage of a perianal abscess, for there is then less chance of its healing over

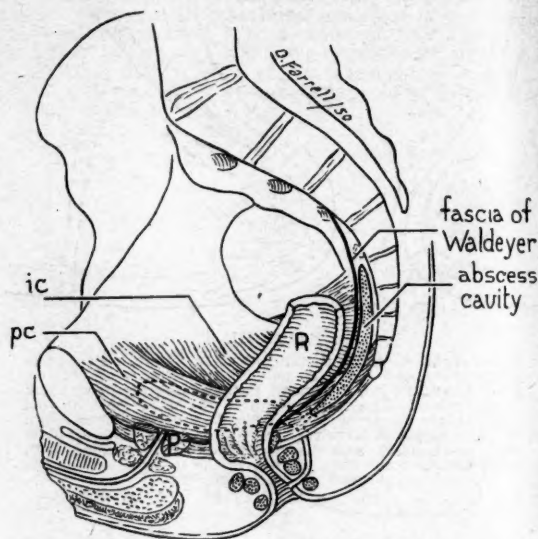


FIGURE IX.

Ischio-rectal fistula which extended upwards to form a retrorectal abscess above the levator ani. ic, ilio-coccygeus part of the levator ani; pc, pubococcygeus part of the levator ani.

resulting wound should be like a shallow valley, so that flat dressings only are required, and so that there is no cavity to pack from below upwards. In general, the larger the wound, the better. Excision of a large area of

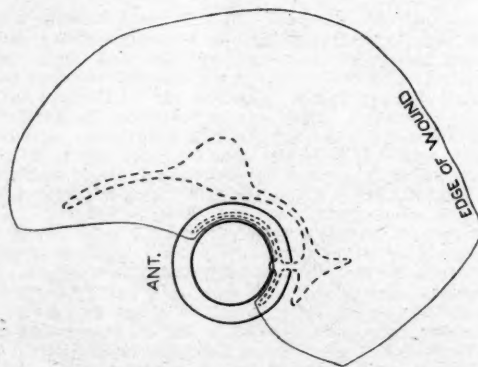


FIGURE X.

Diagram of the fistulous tracks, showing bilateral submucous and a right ischio-rectal extension. On the right side the anterior extension passed forwards above the deep perineal pouch almost to the pubic bone. This drawing was made with the patient lying on his right side.

skin does not delay healing, and was advocated by Salmon more than a hundred years ago.

The care of the wound after drainage of an ischio-rectal abscess is the same as that after the drainage of a fistula. It is irrigated regularly with eusol or other mild anti-

septic solution, and dressed with flat dressings. At first, eusol is used on the dressings, and later, when healing progresses, this is changed to *Lotio Rubra*. During the healing of the wound a watch is kept for any bridging over of portions of the wound and for pocketing of pus in its surface. If either occurs, the bridges or pockets are laid open. The dressings and irrigations should be carried out at least once a day, and they are repeated immediately after each bowel action. Some patients feel more comfortable after sitting in a bath; but irrigation under direct vision with the patient on the side and with the upper buttock elevated produces a cleaner wound.

If the wound is deep and narrow, it is only a matter of time before a misguided but well-meaning nurse fails to pack its depths in order to avoid hurting the patient. The

such as carcinoma, ulcerative colitis *et cetera*. Drainage of the abscess without an attempt to find the internal opening is then often all that is required in the first stage. At the second stage the treatment of the more serious lesion will usually include steps which prevent a recurrence of the abscess.

A submucous abscess of the rectum and anal canal is a condition which is not common, but when it does occur it has sometimes been overlooked. Until the late stages there will often be no external evidence of its existence apart from some spasm of the sphincter. Many of these abscesses arise by extension of infection through the tissues under a fissure, and this may be noted. In other cases the abscesses are due to infection of a submucous hæmatoma. It is on digital examination that the sub-

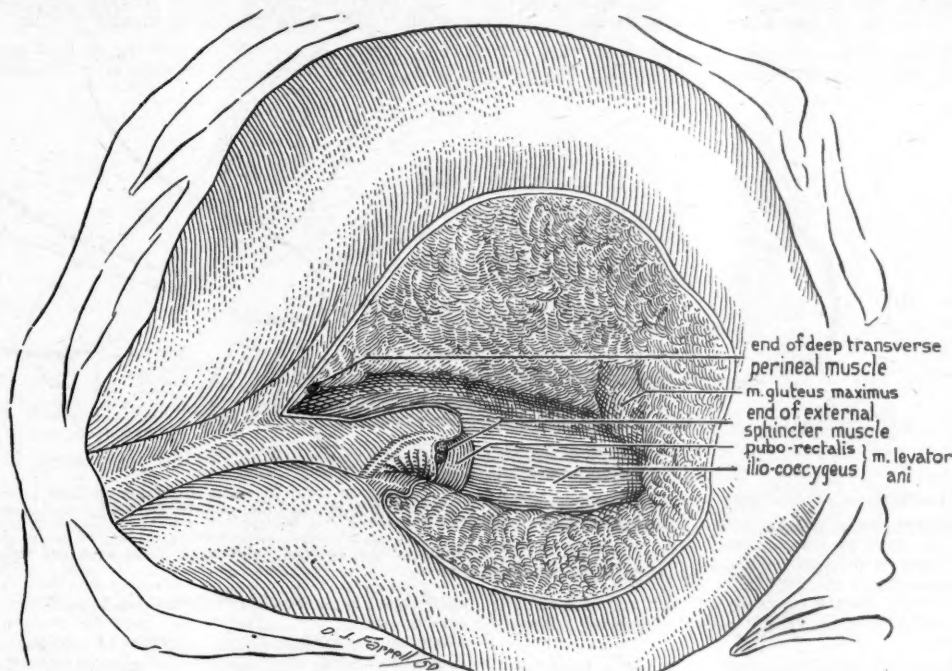


FIGURE XI.

Drawing of the wound in the same patient as in Figure X at the time of the first dressing on the third day after operation. This drawing was made with the patient lying on his right side.

unpacked part of such a wound soon heals over, thereby leaving a focus of infection which later gives rise to another abscess or fistula. Incidentally, if for any reason it is ever necessary to leave a deep perianal wound, the dressing should be carried out by the surgeon till the wound is level with the skin. In such cases it will be found advisable to use "Pentothal", "Trilene", or some other short-acting anæsthetic agent for more than the first dressing.

It still seems almost a universal practice to give penicillin injections in the early stages of an ischio-rectal or perianal abscess; but the infection is a very mixed one, and the possibility of clearing up the abscess by such an injection is practically nil. Instead, to repeat, early drainage of the abscess is advised; and there should be no delay while it is proved that penicillin is not effective in such a case. Incidentally, the application of heat, moist or dry, to the ischio-rectal region may temporarily reduce the pain and discomfort, but it will not result in complete subsidence of the inflammation.

Occasionally an ischio-rectal abscess is found complicating other more serious lesions of the rectum and anus,

mucous abscess is recognized by its tenderness, swelling and heat. Treatment of this condition consists of drainage into the lumen of the bowel. If there is an associated fissure, this will require treatment. In some cases fistulous tracks are associated with this abscess, and these also will require adequate drainage if a recurrence is to be prevented. In the treatment of all submucous abscesses and fistulae, the wound should extend down to the anal margin to provide drainage. However, because of the difficulty of access it may be impossible to be certain that a submucous abscess is drained completely, and if drainage is not complete recurrence will inevitably take place.

An abscess in the pelvi-rectal space does not usually originate in the rectum, and as a result, if such an abscess was to burst through the *levator ani* and through the skin, it would usually give rise to a sinus and not to a fistula. The treatment of such a sinus does not give rise to any great difficulty, for it consists of excision of the sinus, enlargement of the opening in the *levator ani*, wide excision of the tissues of the ischio-rectal fossa, and careful attention to the healing of the wound. In the case in



which the pelvi-rectal abscess communicated with the bowel and then burst externally, we should have the condition which occurs only in the presence of a more serious lesion to which the fistula is incidental—for example, carcinoma of the rectum, chronic ulcerative colitis, penetrating injuries of the rectum *et cetera*. Treatment, then, is that of the primary condition, and, with the exception of penetrating injuries, which is discussed below, this will eliminate the fistula.

A pararectal abscess is a special type of abscess in the pelvi-rectal space. It is situated above the levator ani and within the fascia propria of the rectum, and usually follows impaction of a foreign body or other lesion in the rectum. In some cases healing follows spontaneous rupture into the bowel or drainage through the rectal wall. Rarely, this abscess extends downwards into the ischio-rectal fossa and opens externally. The appropriate treatment is then similar to that of pelvi-rectal fistulae.

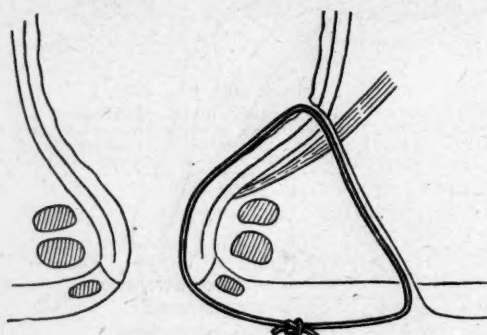


FIGURE XII.

Pelvi-rectal fistula with a seton *in situ*.

#### Classification of Anal and Rectal Fistulae.

Many classifications of anal and rectal fistulae exist, but the broad division into submucous, perianal, ischio-rectal and pelvi-rectal is all that is necessary. It is of no real value to differentiate the various intermuscular types. The term "ano-rectal" fistula is better avoided, for it has been used both as a generic name and for special types of *fistula-in-ano*.

Since the term fistula denotes a pipe, or a track with an opening at each end, the term "blind fistula" should not be used in place of the term "sinus". Thus the so-called "blind internal and external fistula" should be "internal and external sinuses". As has already been mentioned, most anal fistulae start as internal sinuses, and extremely few start as external sinuses. However, this has not prevented the depiction of external sinuses with the same emphasis as genuine fistulae. Apart from external penetrating injuries, and except as a complication of certain diseases, the condition shown in Figure II does not occur.

The statement that "a blind external fistula" may pass up to but not through the mucosa obviously means solely that there has been a failure to find the internal opening, which must have been present.

It is not the position of the internal opening that is of primary importance in the classification and treatment of an anal fistula. For example, a high internal opening is most likely to be due to a submucous fistula, which may be laid open through the mucosa without any risk of incontinence of faeces. Rather, it is the relation of the track to the anal muscles and to the levator ani muscle which is the significant anatomical point.

When the fistula is limited to the perianal space, the track will be situated either superficial or immediately deep to the subcutaneous portion of the external sphincter. On the other hand, the internal opening of an ischio-rectal fistula may be at any level in the anal canal below the

pubo-rectalis at the ano-rectal ring (Figures III and IV), although it is most frequently situated between the subcutaneous and superficial portions of the external sphincter.

If the fistula is one of the almost mythical types which have caused so much worry to the writers of text-books and to students, it is best included with the pelvi-rectal type. This is the fistula shown in Figure V, which passes through the levator ani muscle and through the pelvi-rectal (or pararectal) space and is carried on through the rectum. Such a fistula is much less common than is often believed, for many fistulae which pass between the deep part of the external sphincter and the pubo-rectalis are mistaken for it.

Some complicated anal fistulae have been referred to as being of the "horseshoe" type—that is, they possess two forward or two backward extensions. Such a description fails to convey the exact distribution of the tracks. Even if the tracks are limited to the perianal space, they may extend widely from the anus to the scrotum or labia

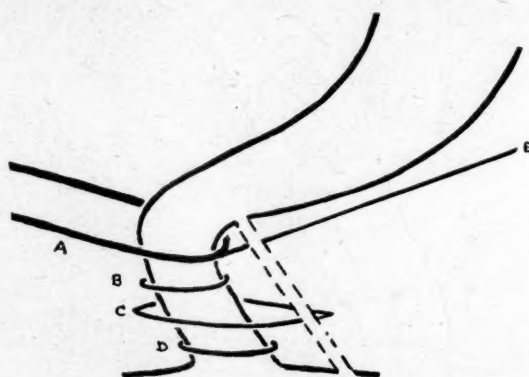


FIGURE XIII.

Diagram of a pelvi-rectal fistula opening into the rectum above the ano-rectal ring and passing through the levator ani muscle. A, pubo-rectalis; B, C, D, deep, superficial and subcutaneous parts of the external sphincter; E, levator ani muscle.

anteriorly, to the ischial tuberosities laterally, and to the coccyx posteriorly. The tracks may be complicated and branched regardless of the number of external openings. Incidentally, the finding of two internal openings nearly always indicates the presence of two distinct fistulae.

If the fistula extends into the ischio-rectal space, it tends to follow a definite pattern. On either or both sides there may be an extension forwards above the deep perineal pouch almost to the pubic bone. The path which these prolongations may follow is well shown by Frazer (1946). Posteriorly there is a shorter but similar prolongation of the ischio-rectal space on each side between the *gluteus maximus* muscle and the sacro-tuberos ligament on the one hand and the sacro-spinous ligament on the other (Figure VI). The shallowness and wide mouths of these posterior prolongations are such that it is practically never necessary to divide the edge of the gluteus muscle when laying the fistulous track wide open. For the anterior prolongations, however, it is sometimes necessary to divide the transverse perineal muscles to obtain proper drainage. With many ischio-rectal fistulae the track passes laterally along the lower surface of the levator ani muscle and then passes downwards (Figure III). Thus some fistulous tracks pass higher than the ano-rectal ring without being on the upper surface of the levator ani.

The tracks in the two ischio-rectal spaces usually communicate posteriorly above the superficial portion of the external sphincter. In that region the track which passes into the bowel most often opens at or just to the side of the mid-line posteriorly. The tracks passing to the external openings or opening run superficially from these

deeper tracks, with the exception that they do not pass through the perineal pouches.

The extent and multiplicity of the tracks of an ischio-rectal fistula are usually greater than with a perianal fistula, but often their extent and multiplicity become apparent only as the operation advances.

Both the perianal and the ischio-rectal fistulae may be associated with a submucous fistula. This may be a major cause of worry if the submucous extension and the lower internal opening are not definitely recognized. The second internal opening high in the bowel may be thought to be the sole communication between the fistula and the bowel—with disastrous results. In Figure VII a high ischio-rectal fistula with a submucous track is shown, and it will be seen how a probe in the outer part of the fistula may be pushed almost to the finger tip which is lying over the upper opening of the submucous track. If the lower primary internal opening is missed and it is unknowingly assumed that the track must pass directly to the finger tip, the probe may be pushed into the bowel. Such treatment will result in a "made-made" pelvi-rectal fistula,

visible, and are most often situated between one and one and a half inches from the anal margin. The most common exceptions are any external openings of a submucous fistula, which are usually within half an inch of the anal margin.

If the fistula is of the perianal type, the induration surrounding it will be palpable through the perianal skin, and on pressure over it a drop of pus may appear at the external opening. The direction of the track or tracks of perianal and ischio-rectal fistulae will usually be found to be in accordance with Goodsall's rule, which states that if the external opening is anterior to a line drawn transversely across the anus and is within one and a half inches of the anus, the track will pass straight to the internal opening in the bowel, whereas if the external opening is anterior to this line and more than one and a half inches from the anus or is posterior to this line, the track will pass around the bowel to open into it in the region of the mid-line posteriorly.

The passage of the finger into the anal canal will often reveal the internal opening as an indurated nodule or

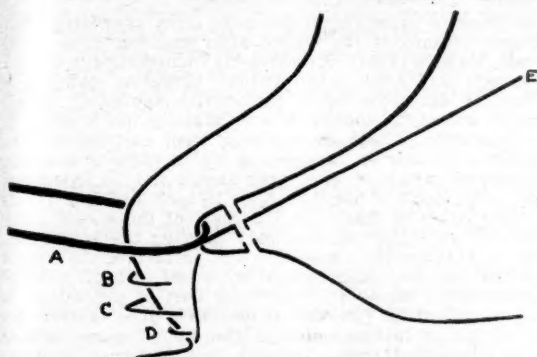


FIGURE XIV.

Diagram showing the extent of the anal canal and of the ischio-rectal fossa removed in the treatment of the fistula shown in Figures V and XIII. The removal of most of the anus and the obliquity of the residual portion of the anal canal are also shown. A, puborectalis; B, C, D, deep, superficial and subcutaneous parts of the external sphincter; E, levator ani muscle.

and its division will result in incontinence of faeces. Probably such a sequence of events is the most common cause of incontinence of faeces after operation on anal fistulae.

Although an ischio-rectal abscess usually spreads downwards, spread in the opposite direction, although denied by Nesselrod (1950), may occur. Figures VIII and IX show diagrammatically the tracks in two cases in which there was an upward extension. In the first case (Figure VIII) the track appeared to pass through the substance of the pubo-coccygeus muscle, and no cause for such a position could be found. It would have been less surprising if the track had been situated between the edges of the pubo-coccygeus and ilio-coccygeus muscles, for this is a site of weakness and is the place through which the finger passes easily during the perineal dissection for excision of the rectum (Lloyd-Davies, 1948; Morgan, 1949). In the second case the situation of the track was behind and to the right of the anus, and it extended upwards into the retrorectal space (Figure IX). In both these cases the only internal opening into the bowel was situated below the levator ani muscle, and apart from taking many weeks, treatment presented little difficulty.

#### Diagnosis.

As with most anal and rectal conditions, it is often not possible to make the correct diagnosis of abscesses and fistulae from the patient's history; but on examination there is no difficulty. One or more external openings may be

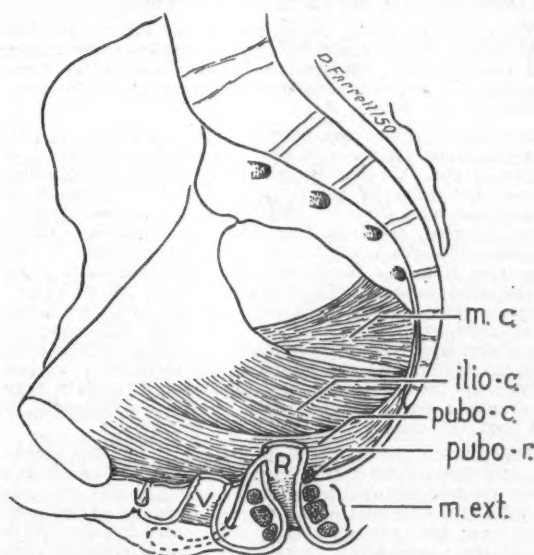


FIGURE XV.

Congenital dermoid cyst with an opening into the rectum in the mid-line anteriorly well above the ano-rectal ring; ilio-c., ilio-coccygeus part of the levator ani; m.c., coccygeus muscle; m.ext., external sphincter muscles; pubo-c., pubococcygeus part of the levator ani; pubo-r., puborectalis part of the levator ani.

as a depression. In at least nine out of every ten cases this internal opening is at or near the mid-line posteriorly at the intermuscular region—that is, it is situated where the longitudinal muscle of the bowel is attached to the mucous membrane between the subcutaneous and superficial parts of the external sphincter. It is rather unusual for the internal opening to be visible on proctoscopy when it is not palpable; but sometimes the internal opening may be seen to contain a drop of pus which has been expressed by the passage of the proctoscope. Exceptionally, the internal opening will admit a finger tip; but such a finding suggests a tuberculous basis to the fistula. If the anal canal is too tender to allow the passage of a finger and proctoscope, such an examination should be carried out after the patient is anesthetized and prior to the commencement of the operation. These routine examinations are essential, since some fistulae will be found to be associated with more serious conditions of the bowel.



Various reasons have been given for the frequent situation of the internal opening in the intermuscular region at or near the mid-line posteriorly. Miles (1944) suggests that with advancing age the separation between what he calls the internal and the external sphincters becomes more pronounced, especially in the mid-line posteriorly, and that this region is therefore likely to be abraded and to allow infection to enter the lymphatic vessels which are passing out into the ischio-rectal fossa. It has also been suggested that lymphangitis or septic thrombophlebitis may commence in an inflamed posterior crypt, papilla or intramuscular gland, or in a fissure in that region. Many chronic fissures are associated with low perianal fistulae, but it is not common for an active fissure to be found in the presence of a more complex fistula. Against that, an ischio-rectal fistula is often associated with the scar of a healed fissure; and it is reasonable to assume that in many cases an acute fissure has been the initiating factor in the entry of infection, which has by spread along either the lymphatics or the veins resulted in the development of the fistula. The two lesions which occur most often in the mid-line posteriorly are a fissure-in-ano and the internal opening of an anal fistula. It is not impossible that one has followed the other.

When the examining finger has entered the rectum, the ischio-rectal fossa should be palpated between the finger and thumb. Deep induration in the ischio-rectal fossa suggests the presence of a fistulous track near the lower surface of the *levator ani*.

With many submucous fistulae there is no opening outside the anus. If there is any associated submucous collection of pus, this may be recognized with the examining finger; but even in its absence it will be possible to palpate the submucous tracks through the mucosa. One or more internal openings may also be palpable. These submucous tracks are often limited to the region of the ano-rectal ring, and the primary internal opening is often in the mid-line posteriorly at the same level. Miles (1944) suggests that spasm of the levatores prevents the downward submucous spread of the infection; but spasm is not always apparent in these cases, and Miles's explanation does not account for the failure of the infection to spread higher up into the rectum. Nor does it explain why eventually a track characteristically passes downwards in the anal submucosa in the mid-line posteriorly.

The routine passage of a probe along fistulous tracks is not necessary for their recognition. It causes pain and gives no new information. If the probe passes upwards parallel with the anal canal, the fistula is not of the perianal type; but that fact can be ascertained by the failure to palpate a superficial track between the external opening and the anal canal.

The injection of lipiodol along a fistulous track and X-ray examination are rarely required to determine its extent. Also, the injection of a dye such as methylene blue prior to operation is of little help. Unless the track has been injected some time previously, the dye may be split into normal tissues during the operation. Again, it may be difficult to inject the dye throughout all the tracks, owing to their partial healing; and excess force with the injection may result in the passage of the dye into normal tissues. At the time of operation all scar and granulation tissue should be removed, and these are just as easily identified without staining.

#### Treatment.

Primary closure of a wound which opens into the anal canal is likely to be attended by infection of the wound and delay in its healing. This is despite the use of antibiotics. On the other hand, "these wounds heal well by second intention" (Morgan and Hughes, 1952). Even if the anal wound takes some weeks or even months to close, any infection will remain superficial and will eventually be finally overcome.

The patient who submits to operation for an anal fistula wishes to be cured once and for all, and whether this takes two or ten weeks is of much less importance than the certainty of cure. I have not found patients very impressed

with a promise of nine out of ten chances of being cured by the use of primary closure of the wound, even though there would be considerable saving of time. If given the choice, patients will invariably choose second-intention healing, for it may be guaranteed to give freedom from recurrences. This is all the more true when the patient has had one or more previous operations and recurrences, or if the wound has never healed after a previous operation. In one of my recent cases the fistula had persisted for twenty-five years despite several operations, and whereas cure and healing were achieved with careful attention to the after-treatment of the wound, such was by no means certain in any length of time if primary closure had been attempted (Figures X and XI). However small and simple the fistula and however recent its origin, the same objection to attempted primary closure applies, for the patient's chief concern is with being cured permanently.

Sinuses near the anus which do not open into the bowel, such as pilonidal sinuses and dermoids, may be successfully treated by primary suture, and this is advised if other considerations of elimination of any dead space, absolute haemostasis, complete excision of all tracks and eversion of the skin edges are followed.

In order to avoid the problems so often associated with primary closure of the wound after excision of an anal fistula, Hughes (1953) advocates the immediate application of a split skin graft to the wound. However, such a procedure is far from being universally applicable to all "fistula wounds". Indeed, if skin grafting has a place in the treatment of wounds resulting from excision of anal fistulae, it is only in the case in which there is a small, flat wound, which in any event should not be associated with much delay in healing. Even in such a case the graft is more likely to "take" on that part of the wound away from the anus than on that part entering the anal canal. This is unfortunate, since it is the portion of the wound entering the anal canal which is slowest to heal, and the rapid healing of the more external part of the wound is no real advantage. In fact, it may be a disadvantage, for it makes the internal part of the wound more difficult to watch, and it may interfere with external drainage from the surface of that part of the wound.

Very fine probes should be available during the operation on an anal fistula, for the lumen of the tracks may become stenosed. Occasionally even a number 00 lachrymal probe may fail to pass. Since many fistulous tracks are not straight, difficulty may be experienced in passing a probe along the whole length. When the fistulous track is being laid open, a probe is therefore passed as far as it will go without force. Then the track is incised this far and the probe is introduced along a further portion of the track, which in turn is incised. These manoeuvres are repeated until the internal opening is reached and laid open.

The use of a seton—that is, a non-absorbable thread tied either tightly or loosely along the fistulous track (Figure XII)—will stimulate the formation of scar tissue and result in some fixation of the anal muscles. As intended, this will lessen retraction of the divided ends of the muscles; but it is only in the treatment of submucous fistulae and of deep fistulae in the mid-line anteriorly that the seton deserves a place.

A seton is of value in cutting through a submucous fistula, since this may then be accomplished without haemorrhage. When there would be no external sphincter remaining anteriorly after the fistulous track has been laid open, continence of faeces would still be retained if the pubo-rectalis was able to pull the rectum forwards against a firm mass of tissue. Such a mass of tissue may be obtained by using a seton. Except in the mid-line anteriorly, the whole external sphincter may be cut through in one or more places without interference with continence of faeces, even without the use of a seton.

If a seton was used along such a track as is shown in Figure XII and then the included portion of the anal canal and rectum was divided, incontinence of faeces would undoubtedly ensue. If such a fistula has resulted from an accidental penetrating injury or is a "man-made" fistula



(Figures V and XIII), those tissues superficial to the pubo-rectalis together with the included portion of the anal canal should be removed, the condition shown in Figure XIV being left. The deep portion of the fistulous track which is not removed is short in length. For some weeks epithelialization of the track is prevented by chemical cauterization, and in some cases the track will then become obliterated. If this happy result is not forthcoming, epithelialization of the track is allowed to occur. That is, the fistula is accepted as permanent, and as its lumen narrows it is associated with little or no discharge. The final state of affairs will be preferable to the incontinence of faeces which would result from division of the pubo-rectalis, and to a colostomy, which is the other possible method of treatment. For example, in the treatment of one patient with a perineal dermoid cyst which communicated with the bowel about an inch above the ano-rectal ring in the mid-line anteriorly (Figure XV), a seton was used to stimulate the formation of scar tissue, and then after its removal the anal canal and only portion of the rectum below the internal opening were divided. It was considered that incision of the rectum in the mid-line anteriorly to a level about an inch above the pubo-rectalis might result in gross scarring, mucosal prolapse and incontinence of faeces. Eventually the track in this case contracted down to about one centimetre in length and with a lumen of about one millimetre. This is epithelialized and there is no appreciable discharge from it. Continence of faeces is retained.

#### Summary.

The anatomical basis for the treatment of anal and rectal abscesses and fistulae is discussed, with emphasis on the fact that recurrence and incontinence of faeces are avoidable complications.

Most ischio-rectal abscesses communicate with the lumen of the bowel. Treatment will therefore be finally successful only if the internal opening is laid open.

The passage of a probe is unnecessary in making the diagnosis of a rectal or anal fistula, and the pain it causes may therefore be avoided.

Penicillin is of little or no value in the treatment of anal and rectal abscesses and fistulae.

Attempted primary closure of a wound opening into the anal canal is not justified in the treatment of a patient who wishes to be certain that there will be no further fistula or abscess.

The primary or delayed application of a split skin graft to the wound after excision of a fistula is rarely indicated.

The place of the seton in treatment is discussed.

Many anal fistulae are associated with the scar of a healed posterior fissure. This partly accounts for the frequent presence of the internal opening of a fistula in the mid-line of the anal canal posteriorly.

The cure of some fistulae passing through the levatores would inevitably be followed by incontinence of faeces, and in these cases a minute, symptomless, residual fistula without incontinence of faeces must often be accepted as the best result obtainable.

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#### SOCIAL FACTORS IN RHEUMATIC HEART DISEASE.<sup>1</sup>

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THE subject of this talk, the social factors in rheumatic heart disease, was chosen no doubt because the importance of these factors in this particular disease is well realized. Dr. Edward Bland, an American physician, writes as follows: "Since we do not yet know the cause or the cure of rheumatic fever the treatment must necessarily consist of those measures which tend to lessen the inflammation in the heart and of those which help to prevent later recurrences." The second half of the sentence, "the treatment must necessarily consist of those measures which help to prevent later recurrences", surely contains the terms of reference for the almoner's responsibility. Dr. Bland adds: "The years following the first attack are the most unstable period and care against recurrence is of the first importance."

Before entering on a discussion of the needs of the sufferers from rheumatic heart disease, I should like to make two general observations. The first is that for purposes of economy I shall use the term rheumatic heart disease and take this to include its various manifestations including chorea. The second is that all illness, perhaps particularly in children and young people, is a highly individual problem. Whilst there are aspects of treatment and care which are peculiar to this group of patients, I realize that there are many considerations which apply equally to any patients suffering from a long-term or recurrent illness; for instance, poliomyelitis, bronchiectasis or tuberculosis.

I shall now discuss the following points: the various personal and social factors which affect children and young adults with rheumatic heart disease; the patients' needs in addition to medical care, the recognition of these by the almoner and the way in which she may attempt to handle them; the provisions made by the community to meet these needs; and, finally, one or two thoughts on what may yet remain to be done.

#### Personal and Social Factors.

The most important matter is the understanding by the patient and his family of the meaning of the illness itself and of the need for continued medical supervision, and their realization that the degree of health in the future will in no small measure be determined by the kind of life which is led after the illness. The problem for them is first in understanding and second in appropriate handling of the individual and his situation. Because of human variations in the degree of understanding, in wisdom and in com-

<sup>1</sup> Read at a meeting of the Hallstrom Institute of Cardiology, July, 1953.

petence, the path is beset by many pitfalls. The chronic and elusive character of the illness brings in its train many emotional problems. Studies made of children and adolescents who have gone through the vagaries of the disease "on their own" very often show that psychological maladjustments, which might have been avoided, have developed or have been accentuated. And so another handicap is added to that of a crippled heart.

Rheumatic heart disease, unlike some other illnesses involving physical deformity, is difficult for many people to understand. Once the acute stage is over, patient and family alike may find it difficult to realize that he is still ill. While they have probably been advised by the doctor to take great care, so that worse shall not befall, all they can see is that the child is restless and naughty, or the adolescent withdrawn, sulky or aggressive. This stage of parental confusion and conflict is often very real. Disease of the heart—commonly held as the vital organ—spells death; fear of death is therefore an important factor. As a result one often sees the mother who becomes over-anxious and too protective, and who coddles or maybe nags at the child; the patient in addition to his illness is hedged about by unhealthy, restrictive attitudes, and this inevitably impedes healthy emotional development. Or again another parent will not accept medical advice; she throws discretion to the winds and becomes careless. Much depends on the maturity and personal security of the mother herself. If she has a well-developed and integrated personality she is more likely to cooperate intelligently; but if this is not so, and she is bound about by lesser or greater fears or inadequacies, the effect of the child's illness may heighten any conflicts of her own that she may have. She may have feelings of personal guilt about the child's illness which may make her reject the child; to compensate, one mother may become over-solicitous and another run away from the threatening situation and neglect to follow medical advice. The strands in the mother-child relationship are many; if one of these is weak or twisted, the added strain of illness will result in unbalanced handling. The parent thus needs treatment or help as well as the child—though of a different kind. I venture the opinion that the best way to meet the needs of these parents is in the closest collaboration of the doctor, parents and almoner.

The importance of the initial explanation by the doctor to a relative cannot be over-estimated; for this may be the beginning of a long association, and the willing and understanding cooperation of the parent is essential. I realize that in busy hospitals this is often difficult to achieve; but I think perhaps more attention could be given to this point. The explanation of the doctor often falls on ears unprepared to accept what he has to say. Fear and confusion block the ability of all of us to take in what we do not want to hear. The opportunity to talk out feelings will often help in the acceptance of an inevitable situation and lessen its terrors. Last week the question of what a doctor should tell a parent was discussed—a most important point. I should like to add to this a further point, and that is the wisdom of giving the parent an opportunity to do some talking herself. It is such an opportunity that the almoner can give, and in our experience parents do appreciate being able to sit down in a private and perhaps a more leisured atmosphere than that of the clinic and say all the things they had not thought of before, or ask questions which arise on further thought. An attempt can early be made to help them sort out any confusion or mixed feelings, to add explanations about the duration of treatment involved, to discuss practical difficulties, to suggest how these may be met, and to offer personal support and interest. From this contact with the patient and his family the foundations are laid for a continuing relationship which may last over a period of months or even years. The first aim is to obtain as full a picture as possible of the personalities of the individuals concerned and of their social situation, and to make some assessment of the personal strengths that can be built upon or weaknesses which will have to be taken into account in considering the patient's needs and in planning social care.

The balance of harmonious family relationships can all too easily be disrupted by long-term illness. Brothers and sisters may resent the extra time and care given to one member and feel slighted or jealous; the sick child may enjoy the extra attention and demand its continuance when it is no longer necessary, or he may be put out that it is no longer justified; and so on. The variety of situations is limited only by the complexity in the shading of human emotions.

All that I have said about the child or adolescent applies in a similar way when the patient is an adult. If the patient is the bread-winner, the family may be thrown into all kinds of tensions because of financial strains or changed responsibilities. If it is the wife who is ill, the care of the children and her feelings about this may be the difficulty. The dynamics in all these situations are the interpersonal relationships which give varying colour and emphasis to each problem. While she is getting to know the patient, the almoner's aim is to secure knowledge of the home situation covering such things as finance, housing, employment, recreation and, for future use, the family's affiliations, if any, with social organizations, such as clubs, lodges, *et cetera*. This is, of course, a process which takes time; while the almoner is getting to know the family, perhaps seeing them at home as well as at the hospital, the mother, husband, or wife, as the case may be, gains in confidence through discussion, in facing her problems and working towards a solution of them. In long drawn out or recurrent illnesses, relatives do appreciate, and can be helped quite considerably by, such continuing relationships; to time and skill must be added genuine interest and a warm humanity, for the mother is perhaps helped most of all when she feels she is understood and accepted.

In this field of personal attitudes perhaps I can best illustrate what I mean by an example:

A lad of eleven years had recovered from a second attack of rheumatic fever which had left him with a small degree of cardiac damage. The almoner was asked to see the boy and his mother, because the latter said he was backward at school, was excitable and easily put out. The doctor had the impression that the boy was really doing well, that the mother's anxiety on his behalf was not justified and that she was having a bad effect on him. The almoner was asked to try to sort out the extent to which the boy had been subject to strain at home and his reaction to this. From a slow and careful study of his background, a most difficult and complicated situation came to light. The mother's anxiety about the lad was not justified, as had been surmised. Talks with the lad himself and discussion with the school authorities showed that he was doing well at school, both at work and in his relations with staff and school mates. The mother, however, did have ample reason for anxiety, which was bound up with her marital situation, her husband's personality and health, and resulting financial stress. She herself was known in her district as an intelligent, competent mother and housewife. The family has been known to the Almoner Department for about three years, and, although the problem which revolved around the person of the husband and father is not solved, assistance has been obtained from statutory sources to mitigate financial stress. The mother for a long time complained of various incapacitating symptoms and was highly fearful of serious organic disease. Medical investigation proved these fears unfounded, and her condition was considered nervous in origin and directly related to her personal worries. Explanations, discussions and support over a period have helped her to accept what is inevitable in her marital situation, to modify her own attitude, and to be less anxious. She has, therefore, been less liable to project her own anxiety on those around her, and has been calmer in the handling of the boy.

#### Social Needs and Community Provision for Them.

The next two headings, social needs and community provisions for these needs, I will take together, for a consideration of the one leads immediately to a discussion of the other; and I shall try to cover the needs of different age groups.

#### Housing.

The importance of adequate living conditions, with dry, well-ventilated houses with sufficient rooms, needs no stressing. The general shortage of housing has its effects on this group of patients, as on others, not only in actual



physical over-crowding, but in the heightening of psychological tensions, which aggravate the nervous and excitable temperament so often characteristic of the rheumatic heart patient. The problem of keeping the sick child or adolescent quiet in bed at home—perhaps universally present—is much greater when living conditions are cramped. The knowledge of this aspect of the patient's home is therefore of great importance when one is considering plans for after care, especially if the patient should be on a restricted régime for some time. When the medical recommendation is fairly simple, alternative plans for its careful implementation may need to be discussed according to physical factors of this kind in the home background. Applications to the Housing Commission, backed by medical opinion, on behalf of families in which there is sickness, are sometimes given a sympathetic hearing. Usually, however, unless the luck of the ballot is on their side, the offer to these families is transfer to an emergency housing settlement; this sometimes can be effected fairly quickly, but on other occasions the delay can be long. Once in the Housing Commission emergency settlement, the family is sure of graduating to a house of its own in due course. The waiting period is anything from nine months to three years. Some families are eligible for help with housing through the War Service Homes Commission; others may contract with building societies; and the Rural Bank will provide loans for building purposes. However, if the families are unable to improve their housing situation themselves, and have to rely on the Housing Commission, they need deep springs of hope and enduring patience.

#### *Institutional or Convalescent Care.*

The importance of the period of convalescence is repeatedly stressed, and this often poses difficult questions. If the patient's body—his heart—needs care, so also does his mind. Separation of young children from parents is thought, by those working in the field of personality development, to be psychologically damaging, and these authorities, in the interest of the child's emotional security and healthy psychological development, state that the affection given in a low-grade home can outweigh the advantages of a well-organized, but less human, institution. This may seem a bald statement; but it is meant to be, and it is made in order to stress the need for careful consideration, based on knowledge of the individual family, of the pros and cons in every case. When this is said, it may be decided that a child requiring a minimum of medical and nursing care should convalesce away from a crowded or an unhappy home. The Smith Family Recovery Home at Mount Arcadia provides excellent care for children of both sexes from the ages of three to twelve years for periods of up to two or three months. Children are admitted there for bed rest immediately after the acute stage of their illness. The home is under the supervision of a visiting medical officer, who attends regularly once a week, and at other times by request; there are a trained nursing staff and two visiting teachers. The home stands in pleasant, high, open surroundings, and the matron and doctors are particularly interested in the children and their families. The home gets excellent results. When children are admitted from hospitals where there are almoner departments, information about the patients and their home background, which will be useful to the home and helpful to the patients, is sent by the almoners concerned. This accompanies, of course, a medical recommendation. So far so good. I think, on the whole, there is room for improvement in the liaison between the home and hospitals when the child leaves Mount Arcadia, and this is under consideration. Mount Arcadia, I have said, takes children aged up to twelve years. There is no similar provision in this State for a patient above that age. The problem of arranging bed rest for adolescents and young adults is often a difficult one. If it is reasonably suitable for them to remain at home, the District Nursing Association is prepared to give what it terms "general care". The commitments of the staff, however, allow for only one or two visits a week, so that this care is in the nature of a watching brief only; but it does at least give the family a

feeling of support. More extensive domiciliary nursing services are in operation in other countries, such as the home care and nursing service attached to Addenbrokes Hospital at Cambridge, which in a recent report is said to be working very well. For those for whom home care is unsuitable, the only solution is admission to one of the small private nursing or convalescent homes; but this raises almost as many problems as it solves. Nursing homes are expensive and vary in standards; the patients tend to be very sick and elderly folk; the atmosphere is not suitable for a young person, who feels this, and therefore does not obtain the maximum benefit from bed rest. In addition, it is not always easy to find a matron who both has a vacancy when it is required and is interested in taking this type of patient. At best, private nursing home care in this State today is only a make-shift solution.

I well remember the alarums and excursions when an intelligent, vivacious, sociable girl fifteen years of age was placed in a nursing home in a country town not far from Sydney. The nursing home had been chosen expressly because the matron had had a good deal of experience in caring for patients with rheumatic heart disease. Initially homesick, the girl became bored and rebellious, particularly because of unsuitable companionship. Her return home before the stipulated period seemed the lesser evil.

Almoners have occasionally been able to place patients in private homes in country districts, perhaps in charge of a married nurse or a sensible, kindly foster mother. It is a time-consuming business seeking out such places, and there are many difficulties in making a satisfactory placement. I think the hearts of all almoners sink when the doctors make a request for long-term convalescent bed care with nursing supervision for older patients. For the cardiac invalid, who cannot be nursed at home, care is available either in a nursing home as above, with all its difficulties, or in one of the State hospitals, where the waiting period for admission varies from days to weeks and sometimes months. For those who are known to be in their terminal illness, the two denominational homes—the Sacred Heart Hospice attached to the Saint Vincent's Hospital, and the Church of England Home of Peace—are available. The care is good, but vacancies are not always very easily come by.

#### *Education.*

Since rheumatic heart disease most frequently manifests itself between the ages of five and twelve years—the school years—the educational needs of rheumatic heart disease children present many and varied problems. For the child who has missed a large amount of schooling, or the child who has recurrent illness and repeated absences from school, there are problems of adjustment. He may return and find himself left behind by his contemporaries. As many children with rheumatic heart disease seem to be sensitive and highly strung, such a child will in all probability feel inferior, and this may show in his behaviour. He may be aggressive, sulky, unwilling or withdrawn, and apparently unable to learn. This situation, *par excellence*, requires skilful handling—understanding and sympathy joined with common sense and encouragement on the part of both parents in the home and teachers in the school. The almoner can do valuable work in discussing the requirements of the child's régime, and in seeking the cooperation of the education authorities in making the child's return to school life as satisfactory as possible. Teachers who are not overwhelmed by too large a class are only too willing to keep a special eye on such a child, and to report difficulties or good progress as the case may be. The Research Branch of the Department of Education in New South Wales is helpful and efficient in advising children and their parents. The officers, if approached, will take a good deal of trouble in assessing the child's learning capabilities, relating these to his physical capacity, and trying to arrange schooling in the most suitable available setting. I understand that a few children with rheumatic heart disease attend the Fred Birke Activity School at the Royal Alexandra Hospital for Children; but on the whole this school is more suitable for children with orthopaedic crippling conditions. The Department of Education has a number of opportunity



classes, both for bright, above average children and for those with a lower than normal intelligence quotient. The various educational facilities are fitted, as far as possible, to the individual child's needs. However, distance from such schools and lack of transport often present insuperable obstacles for attendance at the most suitable school. In considering the needs of these children there are, therefore, the twin difficulties of geography and population. In a large State where there is a comparatively small population, is it wise to work for special schools for handicapped children? Or may it be preferable to have special classes for them within the framework of ordinary schools? A colleague of mine who has recently visited America says that the latter plan is undergoing exploration there. Children with all kinds of disabilities—orthopaedic, sight, hearing and medical conditions—all attend one school, do certain things together and have specialized instruction to meet the needs of their particular handicap. As this country develops, these matters will no doubt receive attention here. At present, if the child cannot, for whatever reason, get to school—because of distance or lack of transport, or because he is too ill to do so—the Department of Public Instruction provides education by correspondence. As for all children, but more particularly for sick and invalid children, the success of this system depends particularly on the application, skill and continuing interest of the mother, who must supervise the child's work. It is estimated that if the child can undertake the full course, which is sent out in fortnightly instalments, this will involve up to four hours' work each day. There are difficulties in this for the conscientious though busy parent, let alone for the less capable and less interested one. From the point of view of helping the invalid child, as well as on the grounds of greater efficiency in public spending, a panel of visiting teachers sent out from the correspondence school would be a valuable addition to the service. I understand Victoria has such a visiting service. A move in this direction in New South Wales is being made through the Council for the Physically Handicapped for the teaching of homebound children with poliomyelitis. The claims of the child with rheumatic heart disease need to be voiced.

At present the only means of meeting this need for educational supervision is by enlisting the help of a volunteer, if one can be found, through a Good Neighbour Council or a church group. Some years ago, when I was working at the Adelaide Children's Hospital, Incorporated, I was frequently able to find a good volunteer from the Red Cross Society. One boy was coached by a retired school master for his intermediate certificate examination, which he satisfactorily passed. This was an important milestone for the boy, whose medical condition demanded that his post-school activities be of brain rather than brawn.

#### *Training and Placement.*

When we come to consider the training of adolescents or young adults with special needs, the problem is a relatively simple one if the individual has been able to complete his or her primary education, has passed the intermediate certificate examination and has an average degree of stability and application. The School Counselling Service, the Youth Welfare Section of the Department of Labour and Industry through its Vocational Guidance Bureau, and the authorities of the technical colleges will all give advice and take a good deal of trouble to help the individual undertake the course most suitable to his medical and intellectual capacity, and to his liking.

#### *Apprenticeship.*

For those who are relatively well grounded educationally, apprenticeships are open to suitable trades, such as watchmaking and repairing. This, of course, usually involves attendance for one night a week at a technical college, and this night work adds strain and fatigue which should be avoided. There is a move afoot to help the less physically robust aspirant to a trade qualification by incorporating regulations for slow workers in the appren-

ticeship schemes. If and when this comes about, the able candidate, who must proceed more slowly on account of his heart or some other physical condition, will be allowed a longer period to complete his apprenticeship.

For the adolescent who has had long periods of illness with much broken schooling and gross disturbance of his primary education, preparation for employment is difficult indeed. This period, too, coincides with the adolescent's normal wish to try his own wings and become independent. It is a time of rapid burgeoning in personality development, and if, added to this, there is the complication of a disability which cuts the boy or girl out as different from his peers, there are often quite violent reactions in ideas and behaviour. The boys frequently want to do something quite unsuitable, such as entering the Merchant Navy, with the idea of making up for what they have missed, or maybe in protest against fussing parents. Lacking in solid educational foundations, even if intelligent, they often have little application and tend to swing from one enthusiasm to the next, with little achievement anywhere and eventually a growing sense of failure. Very often this rebelliousness, which drives them into work quite unsuitable for their medical condition, makes these patients perhaps the most difficult of all to help towards a satisfying and satisfactory place in the scheme of things. Sometimes a sedentary job in a factory, where there is a good industrial welfare officer—who will help the adolescent to settle down, meets with success. It must be admitted, though, that false starts and setbacks alternate repeatedly, and this group is a continual challenge to my profession.

Or again, years of continued semi-invalidism may result in the child's being so protected and spoilt that he or she has completely lost the habit of making any effort, and simply seeks the easy way out—application for the invalid pension.

A lad, nearly sixteen years of age, who attends the outpatient department of this hospital, came to my notice recently. He has had very little schooling on account of a rheumatic heart condition, and partly I think because of his mother's attitude to him. She herself has had grave difficulties in her marriage relationship and in financial matters. A widow now, she has been living on a variety of statutory benefits—Commonwealth widow's pension, Child Endowment, and an allowance from the State Child Welfare Department. The boy is unlettered, ill-disciplined and fit medically only for light employment. Both mother and son are fleeing from this idea, and from the hospital, their main aim at the moment being for him to secure the invalid pension as soon as he reaches sixteen years. He is openly hostile to his mother, resents her dominating attitude to him, has no clearly defined interests, and tends to hang about horse and greyhound racecourses and snooker saloons. I feel, rightly or wrongly, that the pattern is set. The boy's care has been mishandled at home in the years that are gone, and perhaps also at the hospital. He is handicapped in health, education, and social adjustment, and the opportunity to help him towards a more socially acceptable way of life has been lost.

Whilst we are on the subject of vocational training, mention should be made of the facilities offered in the Commonwealth Social Service Department Rehabilitation Scheme. As you know, the rehabilitation scheme for civilians developed out of the provision made at the end of the war under the *Re-establishment Act* for the retraining of ex-service personnel, commonly known as the C.R.T.S. This Act was implemented on behalf of civilians in 1948, and those initially eligible for consideration for training were a certain group of invalid pensioners, and persons who had been receiving sickness or unemployment benefit or tuberculosis allowances for a given length of time. Recently the doorway has been widened to admit any young disabled person between the ages of sixteen and twenty-one years. There are many difficulties ahead in administration and in the provision of training facilities before this scheme is functioning fully and smoothly; but at least the first step of legal sanction has been taken, and the scheme is operating in some degree in all States. In New South Wales the Rehabilitation Department has three centres—two residential centres and one day centre. These centres concentrate at present on remedial physical treatment, and attempt some personal and social rehabilita-

tion. Vocational training is arranged at the various technical or training institutes open to the general public, and the whole rehabilitation process up to placement in employment must be completed in three years. This clause in the provision is very limiting, and cuts out embarkation on any course of more than about two years' duration. At present, many of the people going through the Rehabilitation Department are placed in selected employment rather than retrained. The New South Wales figure for patients with rheumatic heart disease who have so far been helped, I am informed, is small, and the usual training courses offered to them are book-keeping and accountancy for men, and clerical work for women. Once again sufferers from orthopaedic crippling conditions have had pride of place; the cause of the medical cripple needs now to be championed.

#### Employment.

This brings me to the field of employment. Under the training scheme mentioned above, Australia is only, after all, following in the footsteps of other countries, notably Great Britain, in attempting to utilize to the maximum the labour force of the country; while at the same time attempting to ensure a place in the employment field for those who, though disabled, can be gainfully employed. Community facilities for sheltered working conditions are on the whole few and far between, and they are dependent on the degree of enlightenment of individual employers. There is no provision for sheltered workshops, such as the Remploy factories in England; but certain firms, particularly those in which there are industrial welfare departments with trained personnel, are prepared to consider the needs of disabled people. A personal approach to an employer will sometimes result in satisfactory placement. There are, of course, advantages in a personal contact; but it is, after all, rather a hit-and-miss method, and dependent on finding a sympathetic ear. The Commonwealth Employment Service Disabled Persons Section is most helpful and cooperative in attempting to meet the particular needs of individuals who may be sent to them. The officers of this branch are lay people, who have no training in the medical aspects of their work, and this, I believe, is a real weakness in the service. Further, much work remains to be done in this country in the field of job analysis, and in fitting the result of these analyses to the physical and intellectual capacity of people with differing disabilities. An experienced officer in the Commonwealth Employment Service told me recently that he feels that more understanding and greater cooperation from employers need to be sought. At present, light sedentary process work, when it is available, seems to be the usual offer made to the unskilled worker who has a cardiac disability. Jobs are few and far between because of retrenchment in the employment field.

#### Travelling.

Now I want to say a word about travelling. Travelling to and from work is an important point which should not be overlooked; waiting for public transport, climbing up steep ramps, crowded conditions of travel—all may entail standing for long stretches, and, of course, add to fatigue. Attention to these details needs careful consideration when one is helping the patient to obtain employment.

#### Help at Home.

So far I have mentioned the child at home and at school, the adolescent in training and the adult at work. Some mention must be made of the need for help on the home front, be it financial or practical, when the cardiac invalid is the bread-winner, the child or the pregnant woman. If the bread-winner is the patient and his illness is long, wages may be reduced or cease. The family may be entitled, through membership, to benefits from employees' welfare funds, from lodges or from friendly societies. They will, of course, now be entitled to various forms of help under the Commonwealth Government Hospital and Medical Benefits Scheme. In addition, the family is entitled

to various forms of Commonwealth and State financial assistance—sickness benefit, pensions and dependants' allowance, allowances for children from the Child Welfare Department. The State Social Welfare Department can supplement these benefits, which are minimal, by giving grants towards travelling expenses, clothes and extra food; and lastly, under certain circumstances, a number of voluntary organizations, such as the Services Canteens Trust Fund, the Red Cross Society and the Saint Vincent de Paul Society, make grants for special purposes when the need is great. If the patient is a woman in pregnancy, whose heart condition requires curtailment of activity, the help of the State Government's Emergency Housekeeper's Service can be enlisted. The housekeepers will either live in or come in by the day, and the family are asked to pay according to their means. The main fault with this service is that there are not yet enough housekeepers to meet the demands, and the period is limited to six weeks. For the rest, some of the churches have undertaken home help services. For the sick child, in addition to what has been said about education, and for the adult, it is occasionally possible to arrange for occupational or diversional therapy or hobbies at home. In this State, the only organized attempts, as far as I know, to provide occupational therapy at home are for special groups of patients of which the cardiac subject is not one. The occupational therapists from this hospital have one home-visiting staff member attached to the Thoracic Unit. The Red Cross Handicraft Department, of course, works amongst the ex-service personnel. The Crippled Children's Society has a home service of one visit weekly or fortnightly for children registered with the society; but medical cripples are not eligible. The Junior Red Cross Society has a library service for its members, the books on the whole being used in the Junior Red Cross Homes rather than for the homebound, though the books are available on application for others. Beyond these isolated efforts, everything, therefore, depends on the imagination, energy and resource of the interested individual in seeking out and enlisting the help of suitable volunteers. In the United States of America, occupational therapy visiting services have been established for the homebound whatever their diagnosis. In at least one instance children are enrolled in a club—The In-Bed Club—which has its own magazine and badge; the former is circulated to all members, and any child or young person may contribute. The members get to know each other by name, and those who are well enough meet at occasional parties. This may seem to involve much expenditure of time and money, more possible in a richer country than ours; it is, however, according to reports, working successfully, and gives the homebound interest beyond his bedroom. Some extension of the "Argonauts" radio session might provide an answer here.

#### The Follow-up of Patients with Rheumatic Heart Disease.

I have purposely left until last the all-important matter of the follow-up of patients with rheumatic heart disease. Medical opinion is satisfied that for many years after the acute episode the patient remains vulnerable to recurrence, and that each recurrence may leave in its train a greater degree of heart damage. Medical follow-up is generally accepted, therefore, as essential from the preventive angle. A continuing contact from the social angle is an important supplement to medical care. In certain hospitals and medical institutions all patients suffering from rheumatic heart disease are referred to a clinic established particularly for their supervision and care. It is interesting to note, in passing, how often it has been from these clinics that the services of an almoner were first requested. Whilst there may be some opinion to the contrary, great advantages, I think, derive from such a unit. The relationship between the patient and doctor is in the majority of cases a long one. A continuing knowledge of the patient as an individual and of what is happening to him in his daily life is important, if medical care is to be fully effective; and, secondly, the patient's confidence and cooperation are more likely to be held if he continues to see the same doctor, or group of doctors, and the other members of one



medical team. Psychological and environmental ups and downs are inevitable, and the almoner, from the nature of her responsibility, being near to the patient and his family, is there ready to act and help when necessary—either in offering assistance in a material form or merely by a willingness to listen. Sometimes a potentially difficult situation can be kept in equilibrium if the individual can be helped, through discussion and understanding, to see a way out. In planning the individual's return to normal living and employment and the assumption of family responsibilities or whatever it may be, closely coordinated work by doctor and almoner is surely valuable both to the patient and ultimately to the community at large. Such work, it seems to me, may best be achieved in a unit such as I have described.

Scientific investigation, medical and, more recently, surgical treatment and research in the field of rheumatic heart disease are continually developing. Increasing awareness of the importance of the emotional and social factors on which I have touched will, I feel sure, go hand in hand with these developments. If it is accepted, as I think it is in theory at least, some carefully thought out scheme of education for parents might be helpful. Such a programme has been initiated in at least one overseas centre (Saint Francis Sanatorium for Cardiac Patients, Roslyn, New York). Here a systematic attempt is made to inform groups of parents about the nature of the illness, its implications and the appropriate care of the patient, and to give some explanation of the psychological difficulties and pitfalls, and how these may be avoided. Beyond formal instruction, the method of group discussion is used and found here, as elsewhere, to have a therapeutic value in the release of tension. The problems in such a venture are enormous, and, whatever the degree of success, it is an attempt to get to grips with this all-important matter—the informed cooperation of the patient and his relatives. Some concerted thinking might well be given to it here. A further step could perhaps be taken to extend the educational programme to teachers and officers of training and employment schemes for the disabled. This opens a vast field of endeavour. I realize that it can, in the meantime, remain only a pipe dream.

#### Conclusion.

In considering, then, the medical and social needs of these patients, I hope I have given a picture of the services which are available today in New South Wales. This picture has some blank spots, and others of which the outlines, though suggested, are indistinct. I should like, therefore, to stress one or two things that it seems to me would repay further attention. I realize, of course, that there are many patients and families who are able, once the acute stage of illness is over, to deal themselves with any problems in a competent way. However, there remain many against whom the dice of life are unkindly loaded, who therefore need some form of help or another. In the interest of this latter group of patients I would urge the following:

1. Closer and more continuous collaboration in well-organized clinical settings among doctor, patient, parents and almoner.
2. Extension of homes, along the lines of the Smith Family Recovery Home at Mount Arcadia, for adolescents and young adults.
3. Institutional provision for the cardiac invalid, comparable to the New South Wales Homes for Incurables, which take only patients suffering from cancer and orthopaedic conditions.
4. Improved housing for those who require it.
5. Extension of special educational facilities, including visiting teachers for the homebound, and also diversional therapy or home hobbies.

6. Development of schemes for special training in suitable trades, of sheltered workshops or special working conditions in industry.

7. Extension of the Emergency Housekeepers Service.

8. Not the least important, the encouragement of the patient and relatives to play a greater part as intelligent cooperators, both in their homes and in the use of the services provided.

The planning of community provision for the care of this group of patients raises the question as to the total nature of the problem—for how many patients we have to cater. This, of course, links up with methods of detection. Earlier speakers have stressed the difficulties in establishing diagnosis, because of the ill-defined onset of the illness and the unreliability of the parents' statements. At present there seems to be no sure way of knowing with any accuracy the number of patients that is involved. Rheumatic heart disease, I am informed by the Department of Public Health, became a notifiable disease in New South Wales on July 1, 1952. The figure quoted for the first twelve months' period is 60. This, I think, can hardly be an accurate figure; no case has been notified, for example, from this hospital as far as I can ascertain; so notification at present is no guide to the situation. However, notification has been pursued in various countries overseas with advantageous results. I know this is a debatable subject, but at least this may be said on the *plus* side: more vigorous prophylaxis was urged here last week. Notification and the publicity accompanying it could be used as an educational measure to gain the cooperation of the public in wider and earlier detection of the disease. In any case, if we are to plan effectively for community care in the future, this matter of the size of the problem needs further study.

In this brief paper I have mentioned some of the social factors in rheumatic heart disease. I have tried to describe the effects of a serious, often long drawn out or recurrent illness on the physical and emotional development of the individual, and the limitations in satisfactory functioning which may result. The doctor's first aim is to prevent cardiac damage, and if damage is inevitable, to ensure that this is as small as possible. The almoner's aims are the following:

1. To attempt to ensure that environmental hazards, such as unsuitable housing, work and financial distress are reduced to a minimum.
2. To work closely with the patient and those amongst whom he lives in an attempt to ensure the development or maintenance of healthy emotional attitudes, and to avoid, if possible, the growth of hampering, neurotic tendencies.
3. Finally, in those instances in which physical disability and emotional maladjustment are unavoidable or irreversible, to help the individual make the most of his remaining personal and physical strengths, so that he may live as satisfying a life as possible within his limitations—a life as satisfying as possible to him and to the community of which he is a part.

It has been said that in modern times there is too great an insistence on analysis and too little on synthesis—too much specialization and too little integration. This is clearly too facile a simplification, for synthesis must surely presuppose analysis. But there is some food for thought in the remark. With regard to the care of the sufferer from rheumatic heart disease, studies of many different aspects of the problem, laboratory tests, clinical investigations and medical treatment, surgery, personal considerations and environmental factors, all have their part. By bringing together the results of these individual labours, and through a joint consideration of the findings, the best treatment of the "whole person" will be effected.



# VARIATIONS IN SIZES OF LEUCOCYTES IN A BLOOD SMEAR DUE TO DIFFERENCES IN OSMOTIC LOSS OF WATER.

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THE fact that the size of leucocytes in a blood film can vary considerably according to the technique used in making the film should be obvious to anyone who has compared their appearance in an ordinary film with their appearance in a thick smear such as is used in the diagnosis of malaria.

There exists a very ready explanation for these differences.

In the course of drying, water will evaporate first from the plasma, whose osmotic pressure will thereby increase. This increase will produce a movement of water from the body of the leucocyte across its cell membrane to the plasma. This loss of water from the leucocyte will be associated with a corresponding diminution of its size. Furthermore, it will continue until the cell is "fixed" by drying.

The amount of water lost from the cell will depend upon the time taken for the cell to dry.

This explanation may be checked by comparing the sizes of leucocytes in two moderately thick smears, one of which has been dried rapidly in a jet of warm air.

The difference in size of the leucocytes in the two films will be so obvious as to require only a quick perusal of the slides for its demonstration.

Most haematologists have been aware of the variation in sizes of leucocytes with variation in thickness of the smear; but not all perhaps have been aware that these variations are largely related to differences in the time taken to dry the film.

As all haematologists would reject a thick film when investigating the morphology of cells, it is more important to show whether these variations in size due to osmotic phenomena occur in ordinary thin smears.

## The Thin Blood Smear.

The ordinary thin smear is made by spreading a small drop of blood on a slide with a slow movement of the spreader, and it should not be more than one cell thick in any part.

The ratio of cells (red and white) to plasma deposited on the slide varies as the smear is made.

At first there are few cells and much plasma. Indeed, in many smears there is first laid down a strip of clear plasma at the head of the smear about a centimetre in length. The ratio of cells to plasma deposited increases as the smear is made, until at the tail of the smear there are laid down cords consisting of cells stuck together with very little plasma between them.

This variation in the ratio of cells to plasma along the smear results in a tendency for the smear to dry first at the tail and last at the head.

As this tendency is combined with one for the smear to dry first at the edges, it is found that drying takes place in a fairly regular sequence, the stages of which are represented by the series of concentric rings as illustrated in Figure I.

The last part of the smear to dry is situated much nearer to the head than to the tail. The time taken for the complete drying of such a smear varies greatly. On a really hot day in Melbourne it may be no more than a few seconds. On a cold day in winter it usually takes somewhere between two and three minutes. The drying may be hastened in cold weather by warming the slide to body temperature just prior to making the smear and waving the slide vigorously about in the air as soon as the smear

is made. By these means it is possible even in cold weather to dry a smear in a few seconds.

## Method.

In order to assess the extent of this osmotic effect upon the size of leucocytes in thin smears, the following procedure was adopted.

A series of four thin smears was made from the one finger prick of the one person. Two smears were allowed to dry normally and, as the weather was cold, the time taken for them to dry varied from two to three minutes. The other two smears were dried rapidly in a few seconds by the method outlined above. The smears were fixed and

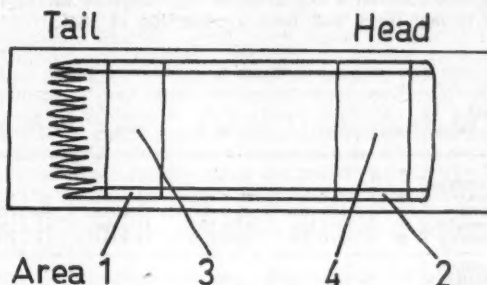


FIGURE I.

stained, and then ruled into areas as shown in Figure II, by four crosslines and two lines running parallel to the edge. Each of the latter lines was placed at a distance of two millimetres from each edge.

The diameters of all the leucocytes within certain areas were then recorded and the average diameters of the neutrophil cells and lymphocytes for each area were calculated.

The areas considered are illustrated in Figure II and are as follows: Area 1, consisting of two strips on the edges of the smear near the tail; Area 2, consisting of two strips on the edges of the smear near the head; Area 3, consisting of a central strip near the tail; Area 4, con-

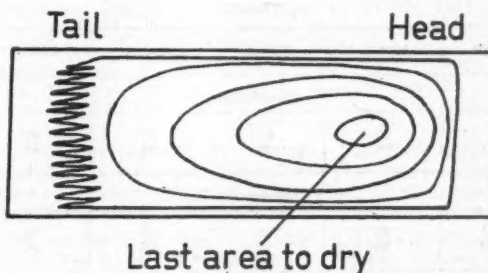


FIGURE II.

sisting of a central strip near the head. All of Area 1 is dry before any of Area 3 is dry. All of Area 2 is dry before any of Area 4 is dry. All of Area 3 is dry before any of Area 4 is dry. But some of Area 2 is dry before Area 1 is completely dried, and some of Area 3 is dry before all of Area 2 is dry. Nevertheless, in general the areas dry in their numerical order.

## Results.

The mean diameters of the lymphocytes and neutrophil cells expressed in  $\mu$  for the four areas on two slides A and B, which were dried rapidly, and on two slides C and D, which were dried normally, are shown in Table I.

The associated figures in parentheses indicate the total number of cells present in the area, and are included so that the significance of the mean can be assessed.

The mean diameters of the lymphocytes and neutrophile cells for the four areas on the two normally dried slides expressed as a percentage of the average diameters of these cells determined from the two rapidly dried slides are shown in Table II.

In the rapidly dried smears there was no significant difference in the average diameters of the lymphocytes for the four areas.

In the normally dried smears, the average diameters were all less than those found for the rapidly dried smears. Here, even in Area 1, the average diameter of the lymphocytes had suffered a reduction of 4%, whereas in the last area to dry there had been a reduction of 18%.

TABLE I.

Cells: How Dried.	Slide.	Area 1.	Area 2.	Area 3.	Area 4.
Lymphocytes					
Quickly	A	13.6 (19)	13.4 (8)	13.6 (50)	13.6 (51)
Quickly	B	13.4 (29)	13.7 (15)	13.8 (78)	13.5 (77)
Normally	C	13.1 (15)	12.4 (12)	11.9 (66)	11.1 (70)
Normally	D	13.1 (9)	12.8 (16)	11.4 (83)	11.1 (76)
Neutrophile Cells:					
Quickly	A	14.0 (28)	14.2 (31)	13.9 (18)	14.2 (25)
Quickly	B	14.2 (29)	14.1 (19)	14.2 (54)	14.0 (65)
Normally	C	14.0 (16)	13.8 (14)	13.6 (60)	13.0 (73)
Normally	D	13.8 (20)	13.5 (20)	13.5 (61)	12.8 (69)

The difference that time of drying makes to the diameter of the lymphocytes may be expressed in another way.

In the rapidly dried smear only 3% of the lymphocytes had a diameter less than  $11.4\mu$ , whereas in the last area to dry of the normally dried smears 58% of the lymphocytes had a diameter less than this value.

In general, the changes in the neutrophile cells follow the same direction as those in the lymphocytes; but the neutrophile cells are not so susceptible to osmotic changes as are the lymphocytes.

TABLE II.

Slide.	Area 1.	Area 2.	Area 3.	Area 4.
<i>Lymphocytes.</i>				
C	96	91	87	82
D	96	90	84	82
<i>Neutrophile Cells.</i>				
C	99	98	97	92
D	98	95	95	91

Whereas the lymphocytes in Area 4 of the normally dried films had undergone reductions in diameter of 18%, in the case of the neutrophile cells the reduction had amounted to only 9%.

This difference in behaviour between the lymphocytes and the neutrophile cells with respect to osmosis exaggerates the slight difference in mean diameter which normally exists between these cells.

In the rapidly dried smears, the average diameter of the neutrophile cells was  $14.1\mu$  and that of the lymphocytes was  $13.6\mu$ —a difference of 3.5%.

In Area 4 of the normally dried smears, the average diameters in  $\mu$  were 12.9 and 11.1 respectively—a difference of 6.2%.

The numbers of the monocytes were not sufficient to warrant tabulation; but a definite impression was gained that these cells are not nearly so susceptible to osmotic changes as are the lymphocytes.

This conclusion is based on the observation that, whereas in the rapidly dried areas there were many lymphocytes as large as or larger than the monocytes, in the areas taking longer to dry there were practically no lymphocytes as large as monocytes.

#### Discussion.

The experimental data presented above are intended to show hematologists what reduction in leucocyte size from osmotic effects may be expected in the ordinary blood smear.

For thicker smears, the changes will be very much greater.

So far very little attention has been paid to the sizes of leucocytes in the blood smear; but, as investigation proceeds, the finer points of morphology are bound to assume greater importance.

It should be emphasized that changes in the leucocytes are not confined to those of size only. Any loss of water from a cell by osmosis will result in a concentration of the stainable material within the cell, so that there will be much deeper staining of both cytoplasm and nucleus.

On the basis of these facts, it is surely reasonable to suggest that further investigation of the morphology of cells in blood or bone marrow be carried out on smears that have been dried rapidly.

#### Summary.

The principles underlying the loss of water from leucocytes by osmosis during the drying of a blood smear are discussed.

It is shown experimentally that this loss may produce an 18% reduction in the mean diameter of lymphocytes in certain parts of a normally dried thin blood smear, and a 9% reduction in the mean diameter of the neutrophile cells.

It is shown that this loss can be largely prevented by drying the smear rapidly, and it is suggested that investigation into the finer points of morphology of cells in a blood or bone-marrow smear be carried out on smears that have been dried rapidly.

#### THE RESULTS OF SURGICAL TREATMENT OF BRONCHIECTASIS.<sup>1</sup>

By J. A. SIMPSON,  
Perth.

THE treatment of bronchiectasis is a controversial subject. All are agreed that only surgery can cure established bronchiectasis, but adequate palliation, in many cases, may be claimed by physician or bronchoscopist, with the use of more conservative measures (Wynn-Williams, 1953; Harwood, 1945, 1946).

The purpose of this paper is to discuss briefly some aspects of the surgical treatment of bronchiectasis, as practised in the Thoracic Unit of the Royal Perth Hospital, and to review the results which have been obtained.

The term "bronchiectasis" is used to describe any permanent dilatation of the bronchial tree, the condition generally being associated, of course, with infection in the walls of the dilated bronchi. No case in which the condition is secondary to carcinoma, adenoma, tuberculosis or foreign body is included in this review. History, clinical findings and straight X-ray films of the chest may all suggest the presence of bronchiectasis; but before a definite diagnosis can be made, and certainly before any rational

<sup>1</sup> Read at a meeting of the Western Australian Branch of the British Medical Association on April 21, 1954, at Perth.



treatment can be undertaken, adequate bronchograms, outlining all segments of the bronchial tree, must be obtained. This confirms the diagnosis and reveals the extent and localization of the disease. With this information the treatment can be planned, the aims being as follows: (i) to relieve symptoms—cough, sputum, hæmoptysis; (ii) to prevent the onset of complications—empyema, cerebral abscess, and, particularly, repeated attacks of acute pneumonic infection; (iii) to prevent the spread of the disease, which occurs in some cases, from one lobe to another; this spread can convert an operable to an inoperable condition.

The complications of bronchiectasis are frequent and often serious. Much time may be lost from work or school by repeated acute episodes in the disease, and even in these days of antibiotics fatalities occur.

The following three groups of patients are excluded from surgical treatment: (i) Those with minimal symptoms and a mild degree of bronchiectasis, whose progress under conservative treatment may be watched. (ii) Those with too extensive disease, who, after the removal of the bronchiectatic areas, would be left with insufficient lung. The younger a patient is at the time of operation, the more easily he compensates for the loss of lung tissue. (iii) Those whose age or general condition contraindicates operation.

In the remainder of cases, surgery is advised. Before operation, active physiotherapy is started to drain the infected lobes and to increase the vital capacity. This is a very important part of the treatment, and may be continued for two or three months before operation if necessary. An endeavour is made to reduce the amount of sputum to the absolute minimum. A "dry" patient who has learnt how to breathe properly and cough productively before operation has a much smoother post-operative course.

In bilateral bronchiectasis it is usual to operate on the worse side first—to remove the "sump"—and some patients, with a mild degree of bronchiectasis on the second side, are so much improved by this alone that a second operation is not necessary (Overholt, 1953). When required, the second operation is carried out three months to a year after the first, the time depending on the severity of the disease and on the general condition and pulmonary function of the patient. An attempt is generally made to remove only the diseased segments (Overholt, 1953)—another reason why adequate pre-operative bronchograms are required. Particularly in bilateral cases, it is important to preserve all healthy lung tissue, and the apical segment of the lower lobe, which is a large segment, is often healthy and may often be preserved when the basal segments are removed (Leigh Collis, 1953). The most we have removed is the lower lobe and the lingular segment of the upper lobe of the left lung and the middle and lower lobes of the right lung, leaving the patient with one and three-quarters of the upper lobes.

#### Material.

Since 1946 there are records of 138 patients who have undergone operation for bronchiectasis. Of these, 83 had unilateral disease and 55 bilateral. Eleven patients with gross bronchiectasis on one side and minimal cylindrical dilatations on the other, have been classified as having unilateral disease. The distribution of the disease is approximately the same as in reported series (Whitwell, 1952; Perry and King, 1940), the lower lobe alone and with the lingular segment of the upper lobe of the left lung being involved most frequently, followed by the middle and lower lobes of the right lung. Total lung bronchiectasis and upper lobe disease are less common. One hundred and eighty-one resections have been performed on these 138 patients. The treatment has been completed in the unilateral cases and in 39 of the 55 bilateral cases. Four patients have had two operations on the same side, two to remove bronchiectatic areas left at the first operation, one to remove a middle lobe abscess which developed seven years after a lower lobectomy, and one to remove an upper lobe which became atelectatic after operation, and in which bronchiectasis later developed.

#### Deaths and Complications.

In these 181 operations there have been six deaths and 44 post-operative complications. Up to the end of 1950 there were three deaths in 61 operations. All occurred soon after operation and were due to errors in operative technique or immediate post-operative management. Since 1950 there have been a further three deaths in 120 operations. One was due to staphylococcal empyema, one, mentioned above, followed a second operation for lung abscess which developed seven years after lobectomy, and the third was that of a patient who also had a post-operative empyema. The empyema was treated and she was discharged from hospital, healed, and went to the country. She died a few weeks after her discharge and we have been unable to get any report of the cause of death. The complications are as follows: atelectasis, 29 cases; bronchial fistula and empyema, seven cases (in five of these atelectasis was present); effusion or empyema without fistula, five cases (in one of these atelectasis was present); hæmorrhage, two cases; bronchial stitch, one case. Minor degrees of atelectasis which were corrected by postural coughing, or small effusions which required aspiration only, are not considered as major complications. On no occasion did these minor troubles delay the patient's discharge from hospital beyond the usual two or three weeks after operation. Only those complications severe enough to require bronchoscopy for the atelectasis or drainage of the effusion are included.

This complication rate may seem high in 181 operations, but the complications are usually not serious. After bronchoscopy and aspiration, the atelectasis patients made uneventful progress, and their discharge from hospital was not delayed. The average stay in hospital for those who developed empyema was four or five weeks. The longest period for which any patient was in hospital was three months (he had a pleuro-lobectomy for bronchiectasis associated with empyema), and simple intercostal drainage was adequate in all but three cases, in which rib resection and drainage were required. The bronchial stitch complication occurred in a woman eighteen months after an upper and middle lobectomy. She had been quite well until she suddenly developed an irritating cough and repeated small hæmoptyses. Bronchoscopic examination revealed a linen stitch embedded in granulations on the stump of the middle lobe bronchus. The stitch was easily removed through the bronchoscope, and she has had no further trouble.

Complications appear to be most common after operations on the first side in a bilateral case (Overholt, 1953); but it is notable in this series that the occurrence of these complications appeared to make little difference to the ultimate result.

#### Results.

Of our 138 patients, 16 have not had their treatment completed, 15 were operated on this year too recently for follow-up investigation, and six are dead. Of the remaining 101 patients there are recent follow-up reports on 94.

The results have been classified in the following four groups: (i) Good: 52 cases (55.3%); these patients have virtually no symptoms. (ii) Satisfactory: 29 cases (30.9%). The patients in this group are leading a normal life, but still have some symptoms, usually slight cough with a little clear sputum. Often this appears merely to be a run-down of secretion from the nose. One has no chest symptoms, but still takes "Dilantin" to minimize the incidence of convulsive seizures following a cerebral abscess which she had one year before her bronchiectasis was treated. Another, who is included in this group as she still has a loose cough and produces about half an ounce of sputum twice a week, won the Interschool Senior Girls' Cup for running. (iii) Unsatisfactory: Nine cases (9.6%). Most of these patients say that they are better since the operation, but they still have cough and thick sputum, or are breathless on mild exertion. (iv) Bad: four cases (4.2%). Three patients are not improved, and one is now very breathless. This gives a total of 81 (86.2%) satisfactory results and 13 (13.8%) unsatisfactory results.

Analysis of the figures shows no difference in the results in unilateral or bilateral cases, nor does the severity or site of the bronchiectasis seem to affect the ultimate result. There is no doubt, however, that the best results occur in those patients operated on in the ten to twenty-five years age group (Table I). The patients in this group are old enough to cooperate intelligently in their treatment, and young enough to compensate for the loss of lung tissue. The further one goes at each end of the scale from these optimal ages, the worse the results become. Of course, there is no need to withhold operation from a man with severe symptoms just because he is aged over forty years; and in the case of a young child with gross bronchiectasis it may be considered wise to remove the diseased areas before the onset of complications, or before spread to healthy lung occurs. These are matters for clinical judgement; but, as the results of operation in the ten to twenty-five years age group are almost uniformly good, there is a strong argument, once operable bronchiectasis has been diagnosed, not to delay operation too long on patients in the late teens or early twenties, and to try to defer operation on young children till they are old enough to cooperate fully in their pre-operative and post-operative breathing and coughing.

TABLE I.

Age (Years).	Result.				Total.
	Good.	Satisfactory.	Unsatisfactory.	Bad.	
Under 10 ..	6	5	2	2	15
10 to 25 ..	35	16	2	0	53
Over 25 ..	11	8	5	2	26
Total ..	52	29	9	4	94

Another striking feature in the follow-up investigation of these patients is that the full benefit of the operation is not felt for some months. Presumably, removal of the pool of infection in the lung allows the associated bronchitis, which is almost always present, to heal slowly. Cough, which persists for some time after the operation, may disappear completely in the course of a few months, and exercise tolerance improves considerably.

#### Summary.

The operative treatment of bronchiectasis is a safe procedure with a low mortality, and though post-operative complications do occur, they are not usually serious and do not impair the ultimate result if properly and promptly treated.

The late results are good. From our experience of the conservative treatment of patients who have not been suitable for surgery or who have refused operation, we believe that surgery offers the only hope of cure and the best relief of symptoms.

The amount of lung which can be removed while the patient is still left with a good functional result depends on his age and on his ability to cooperate in treatment.

The best results of operation were obtained in patients aged between ten and twenty-five years.

#### Acknowledgements.

My thanks are due to Mr. F. J. Clark for permission to publish these results and for his help in the preparation of this paper.

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## Reports of Cases.

### LARGE CHRONIC GASTRIC ULCERS: A REPORT OF TWO PATIENTS.

By R. T. W. REID,

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THE size of chronic peptic ulcers of the stomach is variable, but as a rule the craters remain small. In an investigation of 638 benign gastric ulcers removed surgically, Alvarez and MacCarty (1928) found 94% with a diameter of 2.5 centimetres or less, 3.7 centimetres being the maximal diameter. It has been stated that the majority of chronic gastric ulcers with craters greater than 2.5 centimetres in diameter are malignant (Allen and Welch, 1941), but benign gastric ulcers attaining 10 to 12.5 centimetres in length are recorded (Hurst and Stewart, 1929; Allen and Welch, 1941).

Marshall, Yarnis and Friedman (1953) reported seven patients with "giant benign gastric ulcers"; the symptoms did not respond to medical treatment, the lesions failed to regress, and radiographic study gave the impression of malignant change. The ulcers penetrated neighbouring viscera and simulated carcinoma. The authors thought that large penetrating gastric ulcers were unlikely to heal with medical treatment and pleaded for the recognition of the lesion as a clinical entity.

In an individual case then, size alone, however suggestive, is no absolute criterion of the malignancy of a gastric ulcer, as is shown by the following two cases.

#### Case I.

Mr. X., a married driver, aged fifty-two years, gave a history of vague pains in the abdomen of thirty years' duration. For six weeks he had pain in the epigastrium, which passed to the back near the shoulder blades and to the right side of the chest after coughing. The pain made him nauseated, was relieved by antacids, but was not related to meals. The pain became more severe two days before his admission to the Royal Adelaide Hospital, and morphine was given for relief. His appetite had been poor for six weeks and he had lost one stone in weight during this period. He smoked 30 to 40 cigarettes a day.

Clinical examination revealed tenderness and muscle guarding in the epigastrium. A barium meal study suggested pyloric stenosis with some irregularity of the lesser curvature of the stomach. A fortnight later the patient developed symptoms and signs which were typical of perforation of a peptic ulcer. Laparotomy revealed a mass situated on the lesser curvature of the stomach with a hole one centimetre in length near one end of the mass. The liver contained many carcinomatous deposits. A diagnosis was made of carcinoma of the stomach with perforation and metastasis to the liver. The perforation was closed, but the patient died nine days later.

Autopsy revealed generalized peritonitis. The stomach contained a large ulcer measuring 10 centimetres by six centimetres lying astride the lesser curvature, with a ragged perforation towards one end (Figure 1). The floor of the ulcer was smooth and situated on the body of the pancreas, and the edge was sharp and regular, although undermined in most of its circumference. The liver was diffusely studded with umbilicated tumour deposits, and the left supraclavicular and hilar glands were also involved. A



mass of malignant tissue surrounded and infiltrated the main lower lobe bronchus of the right lung and appeared to be the primary tumour site.

Histological examination showed that the deposits in the liver, glands and lung were composed of anaplastic cells, oval or "oat" cell in type and consistent with the appear-

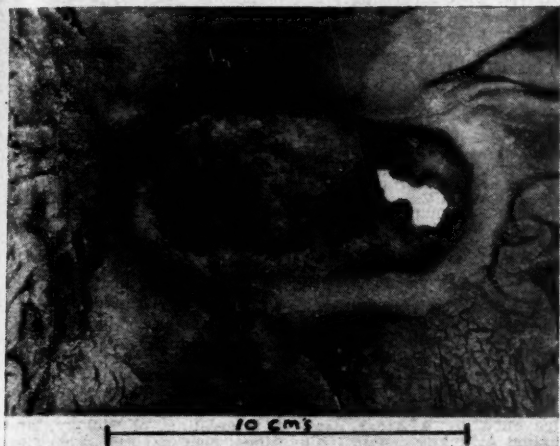


FIGURE I.

A close-up view of the gastric ulcer from Case I, showing the perforation in its floor. The ulcer edge is sharp and regular and the floor smooth and flat. The surrounding mucosa is smooth.

ance of a carcinoma of the bronchus. The gastric ulcer was a chronic peptic lesion with no evidence of malignant change.

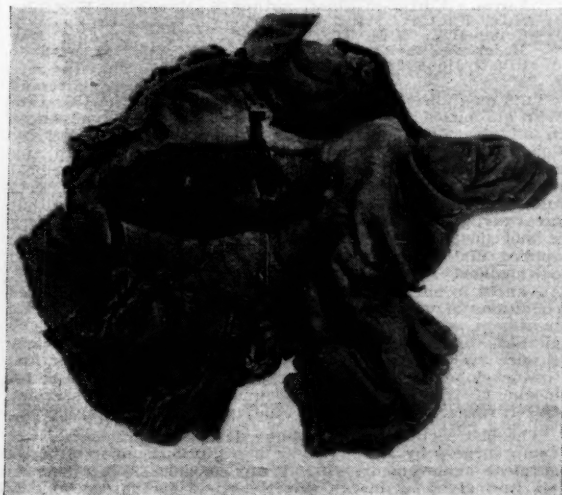


FIGURE II.

The ulcer from Case II. The floor is not as smooth as that in Figure I, but the edge is sharp and regular. There is no nodularity of the surrounding mucosa.

#### Case II.

Mr. Y., a married fitter, aged fifty-six years, was admitted to the Royal Adelaide Hospital five years before he died, after a large hæmatemesis. He complained of "pains in the stomach" after meals and loss of weight during the previous six months; but examination after a barium meal

and gastric juice examination at this time were reported as giving normal results. His health improved for twelve months, but he then suffered a recurrence of upper abdominal pain, which appeared two hours after meals and was relieved by antacids. Examination after a barium meal revealed "a large tender penetrating type of gastric ulcer on the posterior wall of the stomach". The pain eased with rest in bed and medical treatment; but six months later the radiologist noted enlargement of the ulcer and could not exclude a malignant change. A gruel test meal examination showed 20 units of free hydrochloric acid. Laparotomy was performed, and the surgeon noted "a mass of irregular shape on the lesser curvature and posterior wall of the upper portion of the stomach adherent to the pancreas and invading it". No secondary deposits were seen or felt in the abdomen. A diagnosis was made of inoperable carcinoma of the stomach; but the patient survived for twenty-eight months without showing positive evidence of malignant disease. Death followed recurrent hæmatemeses.

Autopsy revealed no abdominal malignant disease. The stomach was distended with blood-stained fluid and was constricted at the middle of the lesser curvature. Four centimetres proximal to the pylorus was a large ulcer measuring 10 centimetres by five centimetres with an undermined, regular edge and an irregular floor which extended into the pancreas. The surrounding mucosa was smooth (Figure II).

Histological examination of the stomach revealed a chronic peptic ulcer with fibrosis and atrophy of the adjacent pancreas.

#### Discussion.

The frequent association of large size and malignant change in gastric ulceration is well known to clinicians; but in individual patients the size of the ulcer is of limited value in determining the nature of the lesion (Panel Discussion, 1950). Boudreau, Harvey and Robbins (1951), who studied 53 gastric ulcers more than four centimetres in diameter obtained from autopsy material, found that 38% of them were benign. The latter figure is subject to correction, as malignant ulcers would be more likely to be surgically removed than benign lesions and would not be included in the series. Nevertheless, it emphasizes the not uncommon occurrence of large benign peptic ulcers.

The second case in the present report illustrates the difficulty in distinguishing some large benign and malignant ulcers at operation. The benign ulcer commonly penetrates the entire thickness of the stomach to involve the liver or pancreas and simulates malignant infiltration. In the absence of visible tumour infiltration of the wall of the stomach or of spread to neighbouring viscera and glands, the appearance of the lesion when the stomach is opened would seem helpful in making the differential diagnosis. Schindler (1948) states that the evidence favouring benign ulcer is a "sharply punched-out edge" encircling the entire crater and an absence of nodularity or infiltration of the mucosa. If the edge is not sharp in its entirety, then the ulcer must be called malignant. It is realized that with criteria such as these the exclusion of carcinoma in ulcerated lesions is not always possible, the error involved being about 15% (Panel Discussion, 1950); but in cases of doubt there is every indication for biopsy of any suspected area. Inspection might prevent some benign ulcers from being considered malignant and inoperable and these patients from being given the benefit of surgical treatment. Five of the seven cases reported by Marshak, Yarnis and Friedman (1953) and both cases in this paper gave the surgeon an impression of malignant change which was later discounted. It is of interest that one of the patients reported by Marshak *et alii* suffered a gastric perforation, and despite recent X-ray and gastroscopic evidence of a benign gastric ulcer, the lesion was considered to be an inoperable cancer of the stomach at operation. Subsequent clinical improvement and gain in weight caused a review of the opinion, and on resection, examination of the stomach revealed a large benign peptic ulcer.

### Summary.

Two patients are reported with large benign gastric ulcers which were thought to be malignant during life.

Previous studies suggest that size alone is an unreliable factor in distinguishing benign and malignant gastric ulcers.

Large peptic ulcers commonly penetrate neighbouring viscera and produce inflammatory induration and adhesions, which at operation may be mistaken for infiltrating tumour.

The appearance of the ulcer edge and the adjacent mucosa may be useful in making the distinction at operation.

### Acknowledgements.

I desire to thank Dr. F. Ray Hone, Honorary Physician at the Royal Adelaide Hospital, and Dr. A. H. London, Director of Surgical Studies in the University of Adelaide, for access to the clinical records of the patients under their care, and Mr. Malcolm Gaetjens, of the Department of Pathology, University of Adelaide, for photographing the specimens.

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## Reviews.

**Clinical Medicine in General Practice.** Edited by John Fry, M.B., B.S., F.R.C.S., with a foreword by Henry Cohen, M.D., D.Sc., LL.D., F.R.C.P.; 1954. London: J. and A. Churchill, Limited. 7½" x 5", pp. 448. Price: 27s. 6d.

With medical education of the undergraduate and post-graduate training of the general practitioner important items of topical interest both at home and here in Australia, this volume by a group of general practitioners in England is a timely contribution to the advancement of both topics. Perusal of this volume may well give rise to a feeling of jealousy towards the lucky patients who have the contributors as their family doctors, for clearly a lifetime of rich experience has been drawn on to compile the mass of wisdom herein contained. The mumbo-jumbo of bygone years of medical practice has been pruned. The authors have selected what is best in the many developments of recent years and show a refreshing enlightenment on the useful and the useless restrictions entailed in dealing with disease.

Human nature does not change very much over the years nor over the seas; hence the problems of conducting a general practice in the city or in the country so well described for Great Britain are in most respects applicable to this country. These two chapters alone make the book a good investment. Such variations as do occur are principally related to the different administrative arrangements of the health services. One consequence of this is that the oral use of penicillin for the treatment of severe tonsillitis in children as advised herein is unlikely to supplant penicillin injections in Australia as favourite, as the latter is free to patients, the former is not. Perhaps this is a wise administrative arrangement.

Surgeons for many generations have spoken of the "acute abdomen". In this volume an attempt at analogy has been made in referring to the "acute chest". Such simplification seems more appropriate for a lay journal than a medical volume. The physician's art surely does not need to succumb to such jargon as this nor even to the "catarrhal child". The vulgarity of "snotty nosed child" would surely be more arresting than this pseudo-scientific abomination.

Written to help the established general practitioner, to inform the new entrant into general practice and the senior undergraduate, and even to show the consultant what a general practitioner does and how he lives, this volume covers a host of problems not ordinarily dealt with in most standard text-books and indicates an attitude of mind towards the individual which is worthy of the very best traditions of general medical practice. A very wide field is covered with surprisingly few omissions. In this regard the usefulness of the removal of hairs with a pair of Whitfield's forceps in a resistant case of *sycosis barbae* and the commonness of perianal skin tags as a major factor in the aetiology of *pruritus ani* were two small points noticed.

This is an excellent medical companion written in an interesting way, with clear print and of a very handy size.

**Experimental Surgery: Including Surgical Physiology.** By J. Markowitz, M.B.E., M.B. (Tor.), Ph.D., M.S. in Exp. Surg. (Minn.), in collaboration with J. Archibald, D.V.M., M.V.Sc., and H. G. Downie, D.V.M., M.S. (Cornell), M.V.Sc.; Third Edition; 1954. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 9" x 6½", pp. 864, with 554 illustrations. Price: 55 7s. 6d.

AFTER a few introductory remarks about the importance of manual craftsmanship, Markowitz describes the importance of experimental surgery in the teaching of physiology to students and in the discovery of facts of importance in medicine and surgery. He then fires a broadside against the anti-vivisectionists, and follows with chapters on the care of laboratory animals, anaesthesia, equipment, and surgical technique, general and special. The whole is leavened by a great deal of interesting physiology, and salted by many poetical quotations, classical and otherwise.

The book would be of use to the teacher of operative surgery, or of physiology, arranging practical courses for students. It would also be of use to the research worker who finds it necessary to use animal experiments in his work. Not only does the author describe in detail such classical procedures as the fashioning of an Eck fistula and a Pavlov pouch, but also the more recent experimental procedures used in physiology, surgery and other sciences, including the mechanical heart, the artificial kidney, and the transplantation of tissues and organs.

**History of the Second World War: United Kingdom Medical Series.** Editor-in-Chief, Arthur S. MacNalty, K. C. B., M.D., F.R.C.P., F.R.C.S. "Surgery", edited by Zachary Cope, B.A., M.D., M.S., F.R.C.S.; 1953. London: Her Majesty's Stationery Office. 9½" x 6½", pp. 792, with 64 illustrations, 23 in colour. Price: 80s.

THIS magnificent single volume of surgery in the 1939-1945 War chronicles the story of the amazing clinical advances in all specialties during that period, and under Zachary Cope's editorship its reading is more fascinating than any surgical text-book. By their contributions, British surgical masters present a comprehensive story of the wide effects and results of service and civilian bombardment in that great struggle for survival. Ogilvie states that war surgery is not just traumatic surgery; it is traumatic surgery applied under conditions of war which cannot be dictated or modified by the surgeon or by the high command. Advances in surgical methods, in accessory aids and altered conditions of warfare are considered, and also the changing treatment of wounds, for instance, from the Winnett Orr method, to wound excision and drainage, and later by early closure were determined by changing circumstances and the development of chemotherapy, surgical mobility, better means of transportation of wounded, transfusion services, better resuscitation methods and improved anaesthesia.

The last section in the volume describing prisoner-of-war camp surgery by Julian Taylor is a glorious understating of surgical achievement without any modern refinements at all, and gives us in ten pages a vivid factual account of what intelligent surgeons can accomplish under the worst living conditions imposed by any enemy. Gordon-Taylor gives us the story of the development of field tactics and interesting high-lights in the desert campaigns. Character is as important as surgical ability in medical men during dull and boring periods as well as during a battle. The effect on morale is high-lighted by a remark heard from a stretcher in a forward-sited casualty clearing station: "Don't worry, mate, 'alf 'Arley Street is just in front of us." Markedly improved results in abdominal and thoraco-abdominal injuries are ascribed to limitless transfusions, exteriorization of the descending colon, chemotherapy, gastric suction and the retention of these patients for ten to fourteen days after operation.



The orthopaedic section by Osmond-Clarke tells of the great reduction in amputations and describes our Tobruk splint. The tremendous strides in our knowledge and treatment of burns, peripheral nerve injuries, rehabilitation, plastic and facio-maxillary injuries, the crush syndrome and the effects of blast make fascinating reading. This is also true of the effective organization of spinal cord and head injuries and the lesson that these patients can be moved early without any decline in condition to mobile units and segregated special hospitals. The story of our improving knowledge is perhaps best shown in thoracic surgery, when Brock and d'Abreu write of a clotted hæmothorax, and thoraco-abdominal wounds. The traumatic effects of the atomic bomb are only lightly touched on with its burn, blast and radioactive effects.

One can only wonder what any future world conflict will produce as a challenge for the next generation of war doctors, who can, however, surely start on a firm foundation. One hopes that the volume will never have to be radically revised.

Every practising surgeon will need this book to assimilate the knowledge of the latest great surgical advances, and to enjoy a thrilling story.

**Isotopic Tracers in Biochemistry and Physiology.** By Jacob Sachs, Ph.D., M.D.; First Edition; 1953. New York: Toronto and London: McGraw-Hill Book Company, Incorporated. 9" x 6½", pp. 391, with 25 illustrations. Price: \$8.50.

DR. JACOB SACHS, the author of this book, is Associate Professor of Chemistry at the University of Arkansas.

Hevesy is credited with the first investigations in which isotopes were utilized for tracer purposes, and since his original experiments in 1920 a huge new branch of scientific endeavour has come into being. Probably the realms of biochemistry have provided greatest scope for the investigators and new understandings of many complicated biological reactions have resulted.

This field is covered in extensive detail by Sachs. He discusses the general principles of isotope techniques in the initial chapters and describes the uses of both radioactive and stable isotopes. Methods of production of radioisotopes and their modes of radioactive decay are given. A good discussion on the operation and limitations of the Geiger-Müller tube follows, with description of proportional and scintillation counters, and the limitations of radioautography. Methods of labelling various chemicals with radioactive atoms for biological use are considered.

Results of tracer investigations in the various fields of biochemistry are then reviewed critically in detail, and the author shows discrimination in indicating the deductions which may be justifiably drawn from the great volume of experimental data which has already accumulated.

The chapter on movements of ions across phase boundaries is most interesting, and the author shows that some active mechanism other than physico-chemical equilibrium determines ion transport in many instances. The chapter concludes with a study of these facts in relation to such diverse clinical problems as shock, and the localization of cerebral tumours by isotopes. Then follow chapters on carbohydrate, protein, fat and nucleic acid metabolism.

Most of the volume is essentially biochemical in interest, but two chapters will appeal more to the clinician; one reviews work with isotopes in thyroid physiology and the other is a comprehensive account of tracer studies on the blood, the latter being an excellent review.

Sachs has gathered a tremendous lot of work into this volume. He has reviewed an extensive literature and his work is certain to receive a welcome.

**Outlines of Industrial Medicine, Legislation and Hygiene.** By James Burnet, M.A., LL.B. (London), M.D., F.R.C.P.E.; Second Edition; 1953. Bristol: John Wright and Sons, Limited. 7½" x 5", pp. 122. Price: 10s. 6d.

ALTHOUGH the second edition of this primer bears the publication date of 1953, and has been increased in size and scope, despite the author's assertion in his preface, it is still behind the times. As in the edition of 1943 the book is divided into three main parts—Industrial diseases, legislation and hygiene. In the chapter on poisons, in Part I, there are now notes on eighteen which were not previously mentioned, including beryllium, cadmium, nitrobenzol, thallium, hydrogen sulphide and carbon monoxide, but there are still some surprising omissions, notably the newer insecticides and cyanides.

The mixed chapter on medical diseases includes maladies such as anthrax and actinomycosis, some of the pneumonococcoses, as well as occupational cramps and compressed air illness. The section on silicosis, which is practically identical with that in the earlier edition, should be brought up to date to conform with recent developments and present-day views on pulmonary dust disease. Under surgical affections, pulmonary carcinoma is mentioned in five lines, but although it is stated that the cause "must be some source of irritation", there is no reference to the occupations in which the risk occurs.

The chapter on skin diseases has been amended and shortened, and at the end is a brief account of injuries caused by X rays and radium, which is a repetition of the corresponding portion of the first edition. There is, however, no mention of the increasing and varied uses of X-ray equipment, radioisotopes and other radioactive sources in industry.

Part II, on industrial legislation, has been revised in the light of recent developments in Britain and is followed by five pages on personal and factory hygiene. This latter section could with advantage have been expanded. The book concludes with a new short chapter on medical supervision in which the author makes a final plea, which all would endorse, for better working conditions in offices.

**Textbook of Gynecology.** By John I. Brewer, B.S., M.D., Ph.D.; 1953. Baltimore: The Williams and Wilkins Company. London: Baillière, Tindall and Cox. Sydney: Angus and Robertson, Limited. 9" x 6½", pp. 550, with 146 illustrations. Price: £5 7s. 6d.

THIS book is divided into two parts. Under Part I several of the common major pathological entities are described in the usual manner, whereas in Part II the various lesions are considered under the heading of the symptoms they produce. This latter procedure constitutes rather a break-away from the traditional didactic text-book method of dealing with each disease condition in an academic fashion. At the same time it makes for a repetition which is not without benefit from the teaching aspect. Treatment of the subject matter in this way also gives the student a much broader and essentially clinical approach, although one wonders if this is not a little premature and if the reader is not being confused by a multitude of facts. In gynecology, as in everything else, the student must "crawl before he can walk". The two extremely comprehensive chapters on abnormal uterine bleeding, where one tends to flounder in a mass of detail, rather illustrate this point.

However, the subject matter itself is presented in a lucid manner and sound gynecological principles are being constantly driven home. Also ideal for teaching purposes is the fact that theories are largely displaced by dogma, and controversial issues are not debated, the student being given something "to hang his hat on" as it were.

Gynecologists in this country will freely accept, as standard practice, most of what this book contains, although one feels they would not agree with the author's liberal indications for the operation of vaginal hysterectomy, or share his faith in the vaginal smear in diagnosing uterine malignant disease. Radiation is favoured in the treatment of carcinoma of the cervix, and there is no real enthusiasm for the operation of myomectomy. However, generally speaking, the teaching varies little from that of our own schools.

Packed full of sound and valuable information, the book is well suited to an above average student and should be read in conjunction with his lectures; in addition the general practitioner will find in it an excellent brush-up in all the essentials of gynecology.

**Diseases of the Digestive System.** Edited by Sidney A. Portis, B.S., M.D., F.A.C.P.; Third Edition; 1953. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson, Limited. 10½" x 7", pp. 1120, with 269 illustrations, five in colour. Price: £10 15s.

DR. PORTIS, in this third edition of his book, has had the assistance of 67 contributors. In this regard each author, or pair of authors, writes a whole chapter on a particular organ, disease or thesis. By this arrangement a little better continuity is maintained than is the case with some other books written by a large number of contributors. The main purpose of this new edition, as stated in the preface, is to incorporate modern ideas concerning the role of psychological factors in the causation of gastro-intestinal pathology. This purpose has been achieved, though the ordinary doctor would need a medical dictionary to understand some of the psychological terms used. The text is thoroughly up to date, and all modern ideas are incorporated.

As each author is writing about the subject of his special interest, theory often outweighs facts. This makes the book therefore rather unsuitable for undergraduates. As an illustration, in two separate chapters one is told by one writer that chronic ulcerative colitis is caused by emotional factors in most cases, and by another writer that almost all cases are the result of food allergy. Neither writer mentions the "opposing" aetiological factor. Whilst this type of presentation is satisfactory and stimulating for the post-graduate student and physician, especially if he is particularly interested in gastro-enterology, it is unsuitable for the undergraduate, and, we think, for many general practitioners as well.

Nearly a third of the text is devoted to the consideration of basic anatomy, physiology, and other fundamental aspects of alimentary disease. This is very well done, and provides a modern basis for the clinical accounts which come later. Another small portion is set aside for consideration of the manifestations of diseases of other systems on the gastrointestinal tract. The bulk of the text is then taken up with thorough accounts of all the diseases of the alimentary system likely to be met in any form of practice. Surgical aspects are discussed at the same high standard as the medical. Chapters which particularly appeal to us are those on the problem of the appendix, peptic ulcer, and liver disease.

Each chapter has a very full list of references, and the table of contents at the beginning is very complete and helpful, as is the index at the back. All these features add to the value of such a book, making it particularly useful as a reference book for the general practitioner, the physician and the surgeon. The book is produced on first class paper, and the illustrations are most helpful. The text is printed in one column to the page. The editor and contributors are to be congratulated on this new edition.

**Medicine in Oxford: A Historical Romance: The Fitzpatrick Lectures for 1952-53, Delivered before the Royal College of Physicians of London.** By Maurice Davidson, M.A., D.M. (Oxon.); 1953. Oxford: Basil Blackwell. London: Macmillan and Company, Limited. 8½" x 6", pp. 78, with 13 illustrations. Price: 10s. 6d.

A VISIT to the English university town of Oxford is a unique experience. The memory of its stately towers and spires, its winding thoroughfares, the shaded walks and verdant meadows may linger on through the years, even though the actual disposition of its ancient colleges and the details of its entrancing history are soon forgotten. Many delightful memories have been revived for us in this small book, embodying the four Fitzpatrick Lectures (1952-1953) delivered by Dr. Maurice Davidson before the Royal College of Physicians of London.

For the purpose of the lectures the subject has been divided into four periods of historical development: from the origin of the university to the end of the thirteenth century; from the beginning of the fourteenth century to the introduction of the Laudian Code (1636); from the Laudian Code to the early nineteenth century; and, lastly, from the early nineteenth century to the year 1914.

A great deal of careful historical research is represented in the presentation of the subject, and there is ample evidence of ripe scholarship and literary craftsmanship in the fluency and dignified style of the writing. Many personalities of fame in the history of medicine are vividly called to mind; and it is interesting to follow the scholastic and humanistic trends which helped to give breadth of outlook and general culture to men of ability who wished to devote some of their time to a study of medical literature. Nevertheless, the impression still remains that the University of Oxford has been in the past too conservative and too deeply steeped in ancient tradition to provide serious students with an adequate knowledge and training for the medical profession.

In 1833, when other centres of learning in Great Britain were teaching the principles of modern science and were giving sound clinical instruction to students of medicine, the University of Oxford felt obliged to introduce reforms in the medical curriculum. Henceforth, it was laid down that an examination in the faculty must be held annually, and that "the ancient writers Hippocrates, Aretaeus, Galen, and Celsus, two of which at fewest are always to be made use of at every examination, must in all cases be added".

Sir William Osler was appointed to the Regius Chair of Medicine in 1905, yet this is the only fact here recorded about his early connexion with the university. On the other hand, Harvey Cushing had this to say about Osler: "... who a short while before [1905] had countless satellites at his beck and call, the strongest university backing, and superb

laboratories—now engaged almost single-handed in the onerous task of putting some life into the much-neglected Oxford School of Medicine".

There is a general impression that prior to this new era the element of romance was singularly lacking in Oxford medicine; since then the world has become more fully aware of the Oxford faculty of medicine as a colourful and vital reality.

## Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"The Year Book of Dermatology and Syphilology (1953-1954 Year Book Series)", edited by Marion B. Sulzberger, M.D., and Rudolf L. Baer, M.D.; 1954. Chicago: The Year Book Publishers, Incorporated. 8" x 5½", pp. 456, with 54 illustrations. Price: \$6.00.

One of the Practical Medicine Series of Year Books.

"The Technique of Psychotherapy", by Lewis R. Wolberg, M.D.; 1954. New York: Grune and Stratton, Incorporated. 10½" x 7", pp. 884. Price: \$14.75.

Based on seminars on psychotherapy, introductory and advanced.

"Hewer's Textbook of Histology for Medical Students", edited by C. L. Foster, M.Sc., Ph.D.; Sixth Edition; 1954. London: William Heinemann (Medical Books), Limited. 9½" x 7", pp. 446, with 418 illustrations. Price: 25s.

The first edition was published in 1937.

"Theory and Problems of Adolescent Development", by David P. Ausubel, M.D., Ph.D.; 1954. New York: Grune and Stratton, Incorporated. 8½" x 5½", pp. 598, with one text figure. Price: \$10.00.

The aim of the book is "to organize around a comprehensive and integrated theory of adolescent development the vast quantity of research data that has accumulated over the past fifty years in the field of adolescent psychology".

"The Biochemistry of Clinical Medicine", by William S. Hoffman, Ph.D., M.D.; 1954. Chicago: The Year Book Publishers, Incorporated. 9½" x 6½", pp. 702, with 58 illustrations.

The book is aimed at the level of the general practitioner with no more than the usual training in chemistry and the physiological sciences.

"Annual Review of Medicine", edited by Windsor C. Cutting and Henry W. Newman; 1954. Stanford, California: Annual Reviews, Incorporated. Volume V. 9" x 6", pp. 500, with one text figure. Price: \$7.00.

There are twenty chapters covering an extensive range of subjects.

"A Handbook of Operative Surgery: Surgical Urology", by R. H. Flocks, M.D., and David Culp, M.D.; 1954. Chicago: The Year Book Publishers, Incorporated. 8½" x 6", pp. 392, with 118 illustrations. Price: \$9.75.

The purpose of the book is "to aid the physician in the performance of the operative portion of the management of his patient".

"Mental Health and Human Relations in Industry", edited by T. M. Ling, M.A., D.M. (Oxon.), M.R.C.P., with a foreword by The Right Honourable Lord Horder, G.C.V.O., M.D., F.R.C.P.; 1954. London: H. K. Lewis and Company, Limited. 8½" x 6", pp. 284, with 10 illustrations. Price: 21s.

Contains fourteen chapters dealing with industrial problems and the individual. Extensive reference is made to the Roffey Park Rehabilitation Centre.

"The Year Book of Pathology and Clinical Pathology (1953-1954 Year Book Series)", edited by William B. Wartman, B.S., M.D.; 1954. Chicago: The Year Book Publishers, Incorporated. 8" x 5½", pp. 486, with 174 illustrations. Price: \$6.00.

One of the Practical Medicine Series of Year Books.



## The Medical Journal of Australia

SATURDAY, AUGUST 14, 1954.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of the article. The abbreviations used for the titles of journals are those adopted by the Quarterly Cumulative Index Medicus. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

### THE YOUNGER MEN OF MEDICINE.

At a recent medical gathering a member of the profession implied, if he did not actually state, that senior practitioners should not be called upon to listen to the perorations of their juniors. Taken out of its context, this bald statement is provocative, and if it does nothing else, it provides justification for a discussion in these columns on the part that youth can and should take in the scientific and medico-political activities of the profession.

First of all we must make up our minds what we mean by youth. Man's conception of who are young and who are old alters as he himself grows older. We may recall at one end of the scale a lad of eighteen, who was dancing with a lass of twenty-three summers and said: "You must have been a wonderful dancer when you were young." At the other end an erstwhile occupier of a professorial chair who was in his eightieth year told a companion ten years his junior that seventy was a good age—you had had your experience at seventy and you still had enough energy to want to start and do things. At eighty, he thought, the urge to do things was not so great—a certain amount of inertia had to be overcome. Again, a well-beloved Australian teacher of medicine, clad in more than ninety years of wisdom, is apt to refer to one of his relatives as "that young girl of eighty". Perhaps it would be better not to use the word youth; to some it will suggest a person unfledged, unreliable and not even capable of standing on his own legs. We have to remember that children grow older much more quickly than they used to do. The pace of the world, of our communities, of life itself has been accelerated beyond all previous imaginings. Vast changes take place as it were overnight and the world is seldom the same when we go to bed at night as it was when we

got up in the morning. Life is in very truth a vast kaleidoscope moving quickly before our eyes, and whether we realize it or not we are all taking part in it. Most young people of today know that they have a part to play, though they may not perhaps be clear about what the part is. At a very early age youth is shed; most lads before twenty are young men and most lasses young women. In any case it has often been remarked that the rowdy and unpredictable medical student of yesterday passes a final examination today and is a restrained, sober-minded and respectable citizen tomorrow.

The young man in medicine *par excellence* is without doubt the man of resident medical officer status. When he has passed this stage the age-term applied to him will vary with the person making the reference. By and large probably the term "younger men of medicine" will be applicable to those who are in or have passed the resident medical officer stage, have done some post-graduate work in preparation for general or special practice, have perhaps seen medical work overseas and have sat at the feet of famous men in other countries, and have begun to make their own way in the world of private, laboratory or university medicine. It may have been this type of graduate about whom the remark recorded at the beginning of this discussion was made. Our purpose is to suggest that it is "the younger men of medicine" who must be brought to the front, encouraged and listened to. They may not always have fresh knowledge to impart, knowledge that their seniors wot not of, but they will almost certainly have a fresh point of view, and in much of our medical adventure we cannot have too many points of view. A youthful outlook, that is, one born of an inquiring and unprejudiced mind ready to receive new impressions, is the leaven that may leaven the whole lump of medicine, and the leavening process is one which has to be repeated again and again—it cannot ever be said to be completed once and for all.

The younger man of medicine who wishes to take an active part in the corporate life of his profession has to face difficulties. The first, and the one which is offered more than any other as a reason for inactivity by a certain type of practitioner, is economic. It is quite understandable and often very real. The practitioner states that he is establishing himself in practice and dare not undertake other activities; he has a young and increasing family, which adds to his responsibilities and takes up more of his spare time; he cannot leave the whole running of the home to his wife, who has no proper help and cannot get it; he is tired before the day starts; and so on. Among other difficulties is the indifference of his colleagues, particularly those of his own vintage, if, for example, he seeks office in some medical association or society—petty jealousies manifest themselves in all kinds of curious ways. Another difficulty, already mentioned, is the possible indifference of seniors; this almost surely is more potential than real. Difficulties have been mentioned; they exist but must be overcome. The younger men and women of medicine must be made to realize that it is incumbent on them to take their share in the scientific and medico-political aspects of medicine. They should show their willingness and also their sincerity. When this happens those of older generations will not be slow to welcome

them. Medicine is not for old or for young as such, but for men and women of all ages who try to follow its progress and accept its responsibilities. There must of necessity be a continual transference of burden from older to younger shoulders; sometimes the transfer is a willing and happy business, sometimes it takes place of necessity because there is nothing else to do. We should see more of the former and less of the latter. The whole question is whether the younger members of the medical profession could not do more for the progress of medicine in this country than they are doing. They alone can supply the answer.

## Current Comment.

### A NEW TYPE OF TREATMENT IN BARBITURATE POISONING.

BARBITURATE POISONING, mostly with suicidal intent, is a serious problem in Denmark—more so, apparently, than in a good many other countries. Carl Clemmesen<sup>1</sup> tells us that the number of persons treated for barbiturate and morphine poisoning in Danish hospitals has more than doubled (from 1500 to 3000) during the period 1945-1951. At the same time, the mortality has dropped from about 25% in 1946 to 3.7% in 1951; and in Copenhagen, where the treatment has been centralized in one department, the mortality has been reduced to 1.6%. This is a remarkable achievement, and others who have to meet the same problem will be interested to know just what is done in Copenhagen. Briefly, the procedure is as follows. From the time of the patient's admission to hospital until he is fully awake and in good general condition, the temperature, pulse rate and respiration rate are recorded every two hours, and the blood pressure and haemoglobin content every four hours. The general condition is watched. The plasma chloride and bicarbonate contents, the serum protein content and the blood urea, barbiturate and (if necessary) potassium contents are determined once every twenty-four hours. The daily output and specific gravity of the urine are determined as far as possible. All these findings, with the therapeutic data, are recorded on a particular type of chart (illustrated in the article) which facilitates survey of the condition and therapy. The patient is placed in a slight Trendelenburg position for the first few days to prevent aspiration of gastric contents, the heels and knees being packed with cotton wool to prevent decubitus ulcers. A hollow tongue-depressor is inserted, through which oxygen is administered continuously. Every other hour the patients are turned over, and at the same time intensive slapping of the chest wall and suction of secretion from the air passages are performed. Procaine penicillin, 300,000 units, is injected subcutaneously every day as a prophylactic measure. The fluid balance is maintained by subcutaneous or intravenous administration of about two litres of fluid daily. If complications occur, they are immediately treated. Clemmesen states that shock is often present on the patient's admission to hospital, or may occur during the course of severe poisoning, but he stresses the importance of arresting it before it becomes severe. A change in only one respect, such as a fall in blood pressure, may be the indication for therapeutic measures such as blood transfusion or infusion of "Macro-dex" or perhaps of a solution of dried blood serum. The development of signs of respiratory obstruction calls for suction from the pharynx, tracheal toilet and, if required, intubation. The tracheal tube must be changed daily and should not be left for more than twenty-four or forty-eight hours unless this is absolutely necessary. Signs of atelectasis or other pulmonary complications call for bronchoscopic examination. Organisms growing from the

bronchial secretion must be examined, with a view to determining the most effective antibiotic therapy. The treatment of respiratory paresis is immediate artificial respiration which, if performed correctly, can nearly always, according to Clemmesen, tide the patients over this crisis even in severe cases, although the prognosis is poorer under these conditions with barbiturate poisoning than it is with morphine poisoning. In the ordinary course of events, any form of stimulation has been abandoned, but for respiratory paresis, moderate stimulation with "Geastimol" (phthalic-acid-bis-diethylamide) or amphetamine may be indicated; Clemmesen states that this is very seldom effective in severe cases. On the other hand, amphetamine, 25 milligrammes given intramuscularly, may help to produce a better flow of blood in collapsed veins, so facilitating venous puncture in a patient in a state of shock. Picrotoxin is never used. For heart failure, appropriate cardiac stimulant drugs may be administered, and caution must be exercised in administering fluids. With improved oxygen therapy, pulmonary oedema has become uncommon, but its occurrence is an indication for intubation with suction and simultaneous intravenous injection of hypertonic glucose solution (say, 100 millilitres of a 50% solution) and, in some cases, of concentrated dried serum. In rare cases, laryngeal oedema may necessitate tracheotomy. Hypothermia, sometimes present on admission of the patient to hospital, is remedied by placing the patient in one of the arches with incandescent lamps used in physical therapy. Hyperthermia, which was previously a common and dreaded complication, has practically ceased to occur since the total abandonment of the use of stimulants. Fever should, if possible, be traced to its source and treated appropriately, special attention being given to the possibility of atelectasis. Alternation of antibiotic agents may be advisable. Removal of blankets is often effective, and in rare cases, cold packings may be used or salicylic acid, three grammes, may be administered *per rectum*. It is important, however, not to wait until the fever has reached excessive heights before instituting treatment. An effort is made to maintain physiological conditions as far as possible during the period of unconsciousness, which may be up to ten days, and careful supervision must be maintained for a few days even after the patient has awakened, with a particular eye for pneumonia or renal damage.

The most notable feature of this treatment is the omission of stimulants. The striking results obtained since it has become routine have already been referred to, and Clemmesen states that most of the patients who die nowadays are those who are already frail, for example, as a result of serious heart disease. At the same time, the therapy is gentle and well tolerated, as may be seen from the fact that twelve of the cases of severe barbiturate poisoning in which treatment was carried out during 1951 involved persons ranging in age from seventy to eighty-five years, with periods of unconsciousness ranging from twenty-four to one hundred and forty-four hours, and all the patients recovered.

### FATIGUE.

The tiredness of a person well in body and mind can be a pleasant sensation, particularly when it is about to be satisfied with rest, but the feeling of fatigue that brings a patient to his doctor is a very different thing. W. B. Spaulding<sup>2</sup> has pointed out that as used clinically and expressed in simple terms, fatigue is a feeling of difficulty in doing things. This may vary from the mild aversion to activity experienced by one patient to the overwhelming feeling of exhaustion rendering another patient incapable of exertion despite a strong desire to be active. Analysis of the cause shows it to have two aspects, either of which may predominate. The cause may be in the type of activity which is difficult for the patient to perform, or in the patient's ability, mental and physical, to carry out such activity. If the activity is too complicated and demanding

<sup>1</sup> *Acta med. scandinav.*, Volume 148, Fascicle 2, 1954.

<sup>2</sup> *Canad. M. A. J.*, December, 1953.



or too monotonous and simple, or if it interferes with adequate rest and relaxation or is contrary to the patient's economic, moral or social aims, then the patient may feel that the activity is difficult to carry out. In other words, he may feel fatigued. On the other hand, the patient's ability may be impaired by depression or anxiety which, regardless of cause, reduces capability and leads to fatigue. If the activity contemplated or attempted aggravates the problems underlying the depression or anxiety, then the fatigue becomes worse. The ability to be active may also be impaired by many generalized disorders, such as anaemia, thyrotoxicosis or malnutrition. Generalized fatigue arises (and this is an important statement, even though it may sound obvious) when there is insufficiency of the whole person in relation to certain activities. The significance of this statement will be seen if, as Spaulding suggests, we contrast the state of generalized fatigue with a symptom such as dyspnoea on exertion experienced when there is insufficiency of one organ, the heart, in relation to one type of activity, physical exertion.

The patient suffering from fatigue needs help, for life is bearing in on him often in a way that is difficult to endure, but he may present a difficult problem to his medical adviser. Spaulding's approach and analysis of the problem are essentially practical and clinical, and what he has to say will bear careful examination. He suggests certain questions that the doctor must answer before proper treatment can be started. Is the cause mainly constitutional, physical or mental? Is the patient tired because his makeup is such that minor illnesses, small changes in routine or slight disappointments make him unwell? Is he suffering from structural disease which perhaps can be treated adequately only by bed rest, drugs or surgery? Is he disabled by mental illness, understandable only after analysis of his temperament, background and current problems? Spaulding describes the situation after the patient has walked into the doctor's consulting room and conversation begins about how the patient feels. As the patient sits there beginning his account, the doctor observes his appearance—whether he is robust and vigorous, pale and wasted, tremulous and fidgety, or slowed down and sad. The doctor listens to the patient describing his illness, noting how strongly he feels about the symptoms—fearful or indifferent, very resentful or irritated. Both the patient's appearance and the spoken account create an impression. Sometimes the one reinforces the other so forcibly that the doctor may say to himself: "This man is chronically ill, feeble and tired; his fatigue, weight loss and lack of appetite strongly suggest serious structural disease, perhaps carcinoma of the stomach." At other times, the patient's appearance is out of step with the description of his illness. He may be jumpy, walk quickly and jerkily, look worried and ill at ease, but claim that everything would be perfectly all right if only the constant tiredness would go away. In such a case it is necessary to learn much about that particular person, his family, home, work and religious and recreational interests, before the symptoms begin to mean much. Yet again, another patient, looking fairly well apart from being a little harassed and unsure of himself, may describe lifelong ill health with many symptoms, including little energy or endurance. Spaulding emphasizes the wisdom of combining inquiry about past health with information about the patient's activities and responsibilities at the present. It may be found that he leads a sheltered life and has few ambitions and little obvious stress to upset him, yet pushed a little by the pressure of work or sickness in a relative, he will feel unwell. Here is a man of poor physiological makeup, who has neither serious structural disease nor disabling mental disease. He does not need drugs or surgery, nor does he need long psychological analysis, because under such treatment there is little chance of any fundamental change. If he can learn to understand that the fatigue is related to the sort of person he is, that it is not due to serious disease, physical or mental, and that prolonged treatment will not be beneficial, he may come to pay little or no attention to it and lead a useful life within the limits of his own capacity. Spaulding offers the warning that there

can be no short cut to the understanding of obscure fatigue. Often minor or major structural abnormalities coexist with evidences of mental unrest. To determine what is the real cause of the fatigue one must know the patient well—his temperament and his personal circumstances as well as the structural defects, if such there be. To sum it up, the task, after obviously remediable defects have been dealt with, would seem to be to help the patient to assess his energy income and to live to the best advantage within that income. This will demand the best that a capable and conscientious doctor has to offer. Although the auxiliary advice of the specialist may sometimes be needed, it is the task, *par excellence*, of the family doctor.

#### THE HÆMOLYTIC STATES.

THE idea of hæmolytic anaemia was first suggested by Vanlair and Masius in 1871, but little notice was taken of their investigations until 1907 when Chauffard published a series of papers on the subject. Vanlair and Masius placed emphasis on premature destruction of red cells as a disease process. Since 1907 much has been written about the condition, but mostly on the basis of anaemia or jaundice or the excretion of bile pigments. Not all people with jaundice, however, have hæmolytic disease and not all people with hæmolytic disease have jaundice. W. H. Crosby has made a thorough study of the condition, using modern methods, and arrives at some very interesting conclusions.<sup>1</sup> It is not accurate to say that hæmolytic disease is due to red cells being destroyed more rapidly than they are produced. This does, in fact, happen during periods of hæmolytic crisis, but if this state were to last for long the patient would soon have no red cells at all. If the number of circulating red cells remains constant, as it does over long periods, production and destruction must be equal. The precise definition of hæmolytic disease depends upon the life span of the red cell. The Ashby technique of differential agglutination demonstrated that the life span of normal red cells transfused into a normal subject was 100 to 120 days. Destruction of these red cells was demonstrated to be a function of their age and not of any random process of hæmolysis. Old cells were destroyed first, the youngest cells last. Other methods of determining the life span of normal red cells have confirmed these results. Hæmolytic disease is present where the average intravascular life span of red cells is less than normal, that is, less than one hundred days. In hæmolytic disease random destruction results in simultaneous loss of young and of old red cells. By use of the Ashby technique and by plotting the loss of red cells against time it is found that the line representing random destruction is curved while destruction due to old age alone is represented by a straight line. In hæmolytic disease 50% of the transfused cells may be lost in the first ten days and only 5% survive for sixty days. The average life then is much less than sixty days. When the average life span is ninety days, as it may be in thalassaemia minor, hæmolytic disease of mild degree is present. When the average life span is less than five days the disease is most severe. In the first case there is no anaemia; this is compensated hæmolytic disease. The presence or absence of anaemia in hæmolytic disease depends upon the capacity of the bone marrow to produce red cells and hæmoglobin. The average daily production of hæmoglobin in normal subjects is about 100 milligrammes per kilogram of body weight; this figure is obtained by dividing the total mass of circulating hæmoglobin by the average red cell span of one hundred and twenty days. The same formula was applied to hæmolytic patients. The output of hæmoglobin varied somewhat from one hæmolytic disease to another. In a case of hereditary spherocytosis the maximal output was about 650 milligrammes per kilogram per day or seven times the normal production. The patient was anæmic and the average life span of his red cells was about eleven days. In another patient with the same disease the average life span was twenty-five days and the patient was not anæmic.

<sup>1</sup> Bull. New York Acad. Med., January, 1954.

Most patients with hereditary hemolytic disease are not anemic when the average life span of the red cells is greater than twenty days. They are anemic when it is less than fifteen days. When it is ten days the production of seven times the normal amount of hemoglobin permits a moderate anemia. At five days or less there is severe anemia. In some hemolytic diseases the life span of the red cells is reduced and the marrow is not capable of the maximum response. This is seen in pernicious anemia.

Hemolytic disease has been termed hemolytic jaundice, and one often encounters such a phrase as "hemolytic anemia was ruled out by the absence of jaundice". By no means do all patients with hemolytic disease show jaundice, and it has often been observed that in hereditary spherocytosis jaundice disappears or becomes less when the patient develops fever. As we have seen, anemia, too, may not be present. A patient who destroys 600 milligrammes of hemoglobin per kilogram per day if he weighed 70 kilograms, would present to his liver 1500 milligrammes of bilirubin per day. His plasma bilirubin remains at a steady state of 3.0 milligrammes per 100 millilitres, which would give him 90 milligrammes in the total plasma volume or 5% of the day's total. He therefore excretes bilirubin as fast as he makes it, but it is not certain what becomes of it. Faecal urobilinogen is not an accurate reflector of the rate of hemolysis and urinary urobilinogen is even less reliable.

Iron deficiency rarely exists. The iron from the destroyed hemoglobin is not excreted and there is often an increase in the ability of the bowel to absorb iron. Iron therapy is not indicated and may be harmful as it increases the siderosis of the liver, pancreas and other organs. It is well to remember that every pint of blood transfused into a patient carries with it 250 milligrammes of iron which cannot be excreted.

The appearance of free hemoglobin in the urine is often a startling complication of hemolytic disease, but it immediately establishes the presence of such disease. Hemoglobinuria is always a result of hemoglobinemia, that is of an abnormally high concentration of free hemoglobin in the plasma. Hemoglobinuria is a threshold phenomenon and, as the threshold is fairly high, its presence reflects a plasma hemoglobin concentration of some magnitude. Reticulocytosis is good evidence of an increased effort of the bone marrow to produce red cells, but is not a sensitive indicator of hemolytic disease.

The cause of increased red cell destruction is different in different forms of the disease and may be intracorporeal or extracorporeal. In sickle-cell anemia there is abnormality in the corpuscles. In acquired autoimmune hemolytic disease the plasma of the patient contains antibodies against his own red cells which are also active against other red cells. The red cells of nocturnal hemoglobinuria are defective, but the plasma is normal; so, too, in pernicious anemia.

#### ATTEMPTED SUICIDE WITH INSULIN.

DESPITE the fact that insulin is freely available to diabetics and their knowledge of its effect if taken in excess, attempted suicide with insulin is apparently rare. A thorough search of the literature by Harry Blotner<sup>1</sup> produced a total of only eight recorded cases of attempted suicide with insulin, an insulin-treated diabetic being concerned in each case. The attempt resulted in death in three cases and recovery in five. Blotner adds to the record the only published case of a non-diabetic who attempted suicide in this way. The patient, who was a physician, not only injected 200 units of regular insulin into himself, but deliberately complicated the picture by injecting large doses of morphine and "Dilaudid". His explanation afterwards of why he had added the sedatives was that he wanted to mask the picture of insulin shock and to prevent convulsions, thereby making it easier to die. The diagnosis certainly was made much more difficult.

but certain circumstances raised the possibility of an overdose of insulin, and the findings from a blood sugar determination were in line with this diagnosis. The intravenous injection of glucose restored the patient to a reasonable degree of consciousness, and he admitted having taken the insulin, "Dilaudid" and morphine. With appropriate treatment, including the injection of "Nalline" (N-allylnormorphine) to combat the morphine and "Dilaudid" poisoning, he recovered. No permanent ill effects were evident. It was fortunate in this case that the diagnosis was made early and treatment was instituted promptly. Blotner points out that without early and sufficient therapy, insulin hypoglycemia may lead to irreversible tissue changes, particularly in the brain and heart, like those seen in cases of anoxia. He also refers to the importance in the management of the patient in these cases of knowing the dose and type of insulin used. A large dose of regular insulin may produce symptoms of insulin shock within one or two hours, but after a large dose of protamine-zinc insulin, they may not appear for twenty-four to thirty-six hours. Similarly the hypoglycemia after the administration of protamine-zinc insulin will be much more prolonged than that after the administration of regular insulin, and glucose therapy must be kept up for a much longer time in the former case than in the latter. It has been noted that in certain cases unconsciousness continues for some hours after glucose therapy even with high blood sugar levels, and some patients die because of the brain damage resulting from severe insulin shock. Even when death does not occur, the overdosage of insulin may result in permanent brain damage, and the deleterious effect may continue after the blood sugar level has reached normal or above normal as the result of intravenous glucose therapy. Tremendous doses of glucose may be required over a long period of time to combat such severe insulin reactions.

Aside from the main question of the insulin effects, this case also illustrates the probable value of N-allylnormorphine in the treatment of an excessive dose of narcotic, although, of course, too much cannot be concluded from a single case. One unquestionably important point brought out by this case, in which the diagnosis had been deliberately confused, is the value of routine blood sugar estimation in the presence of coma, irrespective of the presence of signs and symptoms not related to insulin or diabetic coma.

#### MYXOMATOSIS: THE PRESENT POSITION.

APART from its economic importance to Australia, much of the interest in the myxomatosis campaign lies in its epidemiological and immunological aspects. Fortunately, further extensive experience of myxomatosis has confirmed earlier statements that the disease is not transmissible to man, and it is possible to sit back and watch the campaign in a fairly objective biological fashion.

A report has just been received of a conference held on July 28, 1954, at the headquarters of the Commonwealth Scientific and Industrial Research Organization, at which next season's myxomatosis campaign was mapped out by Commonwealth and State authorities. The meeting discussed the field performance of the disease during the past twelve months, the results of recent research and plans for future work. Those attending the conference included representatives of the Commonwealth Scientific and Industrial Research Organization, State Departments of Agriculture and of Lands, the Commonwealth Department of Commerce and Agriculture, the Graziers' Federal Council, the Australian Wool and Meat Producers' Federation, the Australian Wool Bureau, the Commonwealth Serum Laboratories, the Walter and Eliza Hall Institute for Medical Research, and the Australian National University. Sir Ian Clunies Ross was chairman. Information presented indicates that the 1952-1953 season has been the high-water mark of myxomatosis spread and performance to date. Twelve months ago rabbit infestation was at a very low level over most of the four eastern

<sup>1</sup> *Am. J. M. Sc.*, April, 1954.



mainland States. The autumn "breed up" was patchy, and landholders did a good deal of mopping up and warren destruction. The 1953-1954 season has been more difficult to assess than the earlier seasons, in which myxomatosis was spreading each year to new areas of heavily infested country. The most striking characteristic of the past year has been the lateness in the working of the disease. The first worthwhile activity occurred only in December, January and February, when the Murray River frontage country enjoyed its expected outbreak. An almost uniformly good kill took place along the length of the river from Albury to the mouth. Heavy rains at the end of January stimulated myxomatosis activity in parts of northern Victoria and southern New South Wales west of the Divide. This produced some good kills well away from the rivers. The second surprising characteristic of the 1953-1954 season was the widespread development of myxomatosis activity in the autumn and early winter—an activity which has not yet entirely ceased. This has produced useful second-grade kills over large areas, including parts of South Australia, with first-grade kills in some localities. In general, the best kills recorded during the past season did not quite measure up to those of previous years. They were usually between 80% and 90%, whereas kills of over 90% were often common earlier in favoured areas. This can be linked with the prevalence in the field of virus strains of somewhat reduced virulence. The delegates agreed that the present rabbit situation in Australia was most satisfactory and the most favourable in living memory.

Professor F. N. Fenner, of the Australian National University, reported on the work he and his colleagues have done in assessing the virulence of strains of the virus collected from natural outbreaks of myxomatosis. He explained that virulence was measured by the percentage survival and survival time in groups of test rabbits infected with the various "captured" strains, and went on to state that it was now clear that since 1952 the natural occurrence of weaker strains of the virus had become more widespread, and the decrease in virulence greater. The weaker strains still caused a serious and highly fatal disease, killing something like 90% of infected rabbits. However, because rabbits took longer to die from the disease produced by them, the weaker strains would tend to spread at the expense of the standard high-virulence strain. Delegates decided to continue the current inoculation campaign to ensure the continued introduction of the standard highly virulent strain of the virus. Arrangements were made for the Commonwealth Serum Laboratories to continue to produce supplies of the standard virus for use by State authorities and for sale to landholders, through local agents. Professor Fenner also reported that the strain of the virus which started the epizootic in France was a Brazilian strain which had reached France through Switzerland. It seemed likely that this strain might be even more stable than the standard Australian strain and retain full virulence in the field in competition with the weaker strains. Plans are now being made to test its potentialities in Australia.

Dr. J. M. Rendel, officer in charge of the Commonwealth Scientific and Industrial Research Organization's Animal Genetics Unit, reported on investigations to examine whether rabbits which recovered from the disease could transmit their immunity to their offspring. He said that the possibility must be faced that a rabbit population might develop which was highly resistant to myxomatosis. That emphasized the urgent need to clean out all survivors as a routine follow-up after each outbreak of myxomatosis. Whilst there was any possibility of rabbits resistant to myxomatosis breeding in large numbers, the present advantage over the rabbit was in danger.

Mr. F. N. Ratcliffe, officer in charge of the Commonwealth Scientific and Industrial Research Organization's Wildlife Survey Section, told the meeting that his staff had now found that three types of insect were mainly involved in spreading the disease during epizootics. It was now possible to predict with reasonable certainty, from a study of the seasonal rainfall, how prevalent each of these types would be in any season. Each type produced charac-

teristic outbreaks of the disease, usually at different times of the year. In foothill grazing country and on the plains between major rivers, the useful spread of myxomatosis depended on the occurrence of seasonal rainfall of an unusual character which was likely to occur only once in several years. The insect mainly responsible for the spread of myxomatosis on the plains was a mosquito, *Anopheles annulipes*, which sheltered in warrens and was believed to feed on rabbits underground. It required well distributed and persistent surface water before it became sufficiently abundant to transmit the disease effectively.

The conference agreed that four years' experience showed that myxomatosis would not and could not provide the final, longer-term solution to the rabbit problem. Even in favoured areas, where annual outbreaks of high intensity could be expected, the disease left survivors which must be dealt with by orthodox methods. The fact was stressed that the most practical way of ensuring that Australia enjoyed the maximum benefit from myxomatosis would be for individual land-holders to back up the virus by an energetic mopping-up campaign. State authorities administering the Vermin Regulations were urged to encourage the intensification of control measures following myxomatosis outbreaks.

#### BOECK'S SARCOID OF THE LUNG.

An interesting monograph entitled "Changes in the Chest Roentgenograms in Boeck's Sarcoid of the Lungs" has been received from *Acta radiologica*, Stockholm, Sweden.<sup>1</sup> This is a study of the course of the disease in 90 cases seen by Lorentz Nitter, of the Department of Radiology, Rikshospitalet (University of Oslo). The monograph covers the incidence of sarcoid since its first discovery by Boeck in 1899 when he reported a curious disease occurring in a patient presenting granulomatous conditions of the skin with associated lymphadenopathy. Later he described similar cases with changes in the lungs, conjunctivæ and nervous system. He thus recognized the condition as a generalized disease affecting various organs. The ætiology of the condition is still unknown and the present work adds little to the knowledge of the disease. Many organs may be involved. The histological appearances are those of a granuloma with focal aggregates of epithelioid and giant cells of the Langhans type. It is now known that it is not associated with tuberculosis. The author describes five stages of involvement of the lungs, and in all but two of these the disease tends to regress. The chest films are by no means diagnostic, but when associated with skin and gland lesions help in confirming the diagnosis. One important test is the Kviems test, in which finely ground tissue from gland lesions is injected intradermally; in positive cases a brownish-red papule is seen after a month or more. Meticulous histories of the cases are given, but the chest films reproduced could quite well be found in many other lung conditions. There is one point of interest, and that is that the lung appearances are out of all proportion to the patient's symptoms. Symptoms may be minimal even with advanced lung changes. The skeletal changes are of little help in diagnosis.

#### THE TOWNSVILLE MEDICAL CONFERENCE.

LITTLE time remains for members of the Branches of the British Medical Association to make their arrangements to attend the medical conference in Townsville from August 30 to September 6, 1954. The conference, which has been arranged with commendable zeal by the Townsville Local Medical Association, was described in these columns on June 26, 1954. The president is Dr. T. U. Ley, and Dr. J. Ward, of 61 Sturt Street, Townsville, is the Honorary Secretary. At this time of the year Townsville is most attractive.

<sup>1</sup> *Acta radiol.*, 1953, Supplementum 105.

## Abstracts from Medical Literature.

### OPHTHALMOLOGY.

#### Surgery of the Superior Oblique Muscle.

WILLIAM P. MCGUIRE (*Am. J. Ophthalm.*, September, 1953) is of the opinion that the superior oblique and not the superior rectus muscle is the muscle most frequently at fault in isolated vertical motor imbalances. In cases of paralysis of the inferior rectus muscle the paretic muscle should be strengthened when there is true paralysis of this muscle and fixation is with the sound eye. Weakening of the opposite superior oblique muscle should be brought about when fixation is with the paretic eye and when paralysis of the inferior rectus muscle is not great. In cases of paralysis of the superior oblique muscle the author recommends strengthening (resection) of the muscle. Occasionally recession of the ipsilateral inferior oblique muscle may also be necessary, but should not be performed until after the superior oblique muscle has been strengthened.

#### Anesthetic Agents Used in Retrobulbar Injection.

DANIEL SYNDACKER *et alii* (*Arch. Ophthalm.*, April, 1954) have studied the effect of retrobulbar anesthesia induced with various agents on the relative prominence of the globe, intraocular tension, pupillary size, extraocular muscles, depth of the anterior chamber and corneal sensitivity. The solutions employed were various combinations of procaine hydrochloride (2%), adrenaline (1:50,000), hyaluronidase (7.5 turbidity units per millilitre), lidocaine hydrochloride (1%) and isotonic saline. Clinically the injection of 1.5 millilitres of solution into the muscle cone caused no significant increase in prominence of the globe. Adrenaline, hyaluronidase or saline caused no change in intraocular tension, whereas any solution containing procaine or lidocaine produced a fall in tension. The addition of adrenaline or hyaluronidase or both to the procaine produced a greater average drop in pressure in the 10 cases in which it was used. In all cases the maximum drop in pressure occurred within five minutes. Pupillary dilatation occurred within five minutes after retrobulbar injection of lidocaine or procaine, and these same injections produced paralysis of some or all extraocular muscles in all cases within ten minutes. Procaine and adrenaline, and procaine, adrenaline and hyaluronidase had the greatest effect. Paralysis of extraocular muscles was not associated necessarily with a lowered intraocular pressure. The authors conclude that the total effect of the retrobulbar injection can be attributed to the nerve block produced.

#### Iridectomy for Drawn-Up Pupil.

PAUL A. CHANDLER (*Am. J. Ophthalm.*, September, 1953) describes his technique for iridectomy, which was designed primarily for cases of very drawn-up pupil after iridocyclitis for congenital glaucoma. A slanting incision is made with a keratome. The tip of the keratome engages clear

cornea one to four millimetres from the limbus and enters the anterior chamber just below the centre of the cornea, the opening into the anterior chamber being about four millimetres long. Iris forceps without teeth are introduced, the iris is grasped and pulled out of the wound, and a small iridectomy is performed. The iris retracts into the anterior chamber, and the anterior chamber is formed by air injection.

#### Anterior Flap Sclerotomy with Basal Iridencleisis.

H. B. STALLARD (*Brit. J. Ophthalm.*, November, 1953) describes in detail an operation for glaucoma which he states has the following advantages: the anterior chamber is reformed in twenty-four hours, there is no need for post-operative massage, in seven days a bleb has formed which has a thick covering, and the operation has been successful in reducing the intraocular tension in 97.7% of a series of 142 patients (162 eyes). The operation is performed in three stages, namely, a sclerotomy, a cyclodialysis and, finally, a basal iridencleisis. Complications which the author has encountered are choroidal detachment, iridocyclitis, late infection of the bleb, cataract and partial detachment of Descemet's membrane. In only three cases did the operation fail to control the intraocular pressure.

#### Simplified Ptosis Surgery.

BRENDAN D. LEAHY (*Arch. Ophthalm.*, November, 1953) relies on two types of operation for the cure of ptosis. When there is paralysis of the levator he recommends a sling operation; he favours a variation of the simple sling operation of Friedenwald and Guyton, using 2-0 white silk sutures for the sling. The procedure is easy to perform, and there is almost no post-operative reaction. Where there is action of the levator, the resection of the levator is the operation of choice. The author outlines a simple technique of levator resection via the external route.

#### The Ocular Effects of Methyl Alcohol Poisoning.

CURTIS D. BERTON and F. P. CALHOUN (*Am. J. Ophthalm.*, December, 1953) report on the ocular findings in 320 patients who had consumed bootleg whisky containing 35% methyl alcohol and 15% ethyl alcohol. The symptoms of poisoning usually developed in eighteen to forty-eight hours. The patients complained of visual disturbances, weakness, abdominal pain, nausea, vomiting, headache, dizziness and shortness of breath. The initial visual symptoms ranged from spots before the eyes to complete blindness. Many patients complained of whitish and greyish misty vision. The initially reduced vision showed an early recovery, which was often only transitory. All patients who regained and retained normal visual acuity did so within six days after treatment was begun. If vision did not return to normal in six days, it dropped again to a very low level. In the acute phase of poisoning the pupillary reaction was of prognostic value. Patients with fixed dilated pupils usually died; if they recovered, they had severe visual loss. No patient with normally reacting pupils had permanent visual loss.

Fundus changes consisted of hyperemia of the disk, followed in six to twenty-four hours by a whitish, striated edema of the disk margins and adjacent retina. All patients with severe retinal edema and most of those with moderate edema had some degree of permanent visual loss. In those with severe ocular damage optic atrophy became visible in thirty to sixty days. The blood carbon dioxide content was measured in all patients, and the degree of acidosis was a valuable guide to diagnosis, therapy and prognosis. Treatment was directed toward the elimination of acidosis. Bicarbonate of soda was given by mouth to patients whose symptoms were mild and by the intravenous route if symptoms were severe.

#### Gonioscopy in Diagnosis of Tumours of Iris and Ciliary Body.

HAROLD G. SCHWIM (*Arch. Ophthalm.*, March, 1954) stresses the importance of gonioscopy in the diagnosis of tumours of the posterior chamber which have not infiltrated into the angle of the anterior chamber or through the iris. The only clue to their presence may be a bulge in the iris. With maximum mydriasis the periphery of the posterior chamber can be examined with a gonioscope. Lesions of the posterior chamber which may cause peripheral iris bulge are intra-epithelial cysts and malignant melanoma, malignant epithelioma of the ciliary epithelium, gumma, tuberculosis or sarcoidosis, detachment of the ciliary body and choroid following operation or injury, hyperplasia of the pigment epithelium, leucomyoma of the ciliary body, metastatic carcinoma and diktyoma. The author describes in detail the clinical findings in intra-epithelial cysts and at the same time stresses the difficulty in confirming the diagnosis. He indicates the value of gonioscopy in establishing the diagnosis; this is of great importance as these cysts are to be differentiated from malignant tumours.

#### Intraocular Acrylic Lens Surgery.

HAROLD RIDLEY (*Brit. J. Ophthalm.*, March, 1954) reports on the results of 150 operations in which an acrylic lens was inserted into the eye after cataract extraction. He has found that after three years the lens is well tolerated. The acrylic lens should not be inserted after intracapsular extraction, as an intact posterior capsule is necessary to prevent dislocation; and when the posterior capsule is intact, dislocation has occurred only after trauma. No untoward complications occurred in the series, and all were dealt with satisfactorily. The author is of the opinion that the intraocular acrylic lens operation has a definite place in ophthalmic surgery.

#### Mandibulo-Facial Dysostosis.

PAUL HURWITZ (*Arch. Ophthalm.*, January, 1954) adds another report of mandibulo-facial dysostosis to the literature. The features are palpebral fissures with an antimongoloid slope and with colobomata in the temporal halves of the lower lids, hypoplasia of the malar bones and mandible, malformation of the external ear, macrostoma, high palate and irregular disposition of the teeth, blind fistulae between the angles of the mouth and the ears, atypical hair growth and facial clefts and skeletal deformities,



such as missing thumbs. Other but less salient features may be present. The disease has been classified as complete, incomplete, abortive (in which only the lid anomaly exists), unilateral and atypical. The condition is hereditary, being an irregular dominant. It arises from delayed ossification of the mesoderm of the first visceral arch, which gives rise to the facial bones. The condition is to be differentiated from cleido-cranial dystostosis, cranio-facial dysostosis (Crouzon) and acrocephaly with syndactyly.

#### Cerebral Angiography and Ophthalmology.

HAROLD H. JOY *et alii* (*Am. J. Ophthalm.*, January, 1954) are of the opinion that cerebral angiography is important in cases of unexplained failing vision in which physical and neurological examinations produce negative results. They briefly describe the normal anatomy of the intracranial circulation and outline their technique of angiography. Various complications which may accompany injection of the contrast medium are mentioned, and the literature is reviewed. It appears that the possibility of permanent damage due to the procedure is remote, and any danger is compensated for by the valuable information obtained by its use when indicated.

#### Eye Socket Infection.

DAVID W. PARKS and JOSEPH M. MILLER (*Arch. Ophthalm.*, April, 1954) report on the use of "Varidase", containing streptokinase and streptodornase, in the treatment of orbit infection following enucleation. One ampoule of "Varidase" is dissolved in 30 millilitres of isotonic saline solution, and the solution must be used so that it comes into direct contact with the area in which its action is desired. After digestion of fibrin and nucleoprotein has occurred, the products must be removed by washing with isotonic saline. The authors describe in detail results of treatment of two patients with infected eye sockets.

#### Intraocular Pressure and a Carbonic Anhydrase Inhibitor.

BERNARD BECKER (*Am. J. Ophthalm.*, January, 1954), in a preliminary report, records the results of oral administration of a carbonic anhydrase inhibitor, "Diamox", to 19 patients. A pronounced fall in intraocular pressure occurred in all cases. After a single dose of "Diamox" pressure began to fall in one hour, reached a minimum in three to five hours and returned to the previous level in twelve hours. The author suggests its use pre-operatively in glaucoma which fails to respond to miotics. Investigation is in progress into its continued use in cases of chronic glaucoma.

#### Scleral Resection Operation for Retinal Detachment.

PETER KRONFELD and DOHRMANN FISCHER (*Arch. Ophthalm.*, March, 1954) report on the results of 200 consecutive scleral resection operations performed in cases of idiopathic and traumatic retinal detachment. The resections were penetrating with and without the application of 2% potassium hydrochloride solution to the exposed choroid. The authors classify their results by success (reattachment occurred),

failure (no benefit was derived from the operation) or improvement (some measurable benefit ensued in the presence of partial detachment). In 62 cases success occurred, in 17 improvement and in 121 failure. The operation was most successful in cases of shortage of the retina. The authors conclude that the beneficial effect of the operation was probably due to the creation of a state of relative slackness of the retina and of pulling elements within the vitreous.

#### Aspiration Biopsy in Intraocular Tumours.

JOHN C. LONG *et alii* (*Arch. Ophthalm.*, September, 1953) consider the value of aspiration when the diagnosis of intraocular tumour is in doubt. They report the results of aspiration in 11 cases. They conclude that the procedure should be reserved for cases in which intensive studies have failed to produce a definite conclusion, and in which the decision to enucleate or to retain the eye hinges on the determination. If a positive diagnosis is obtained from biopsy, the eye should be immediately enucleated. If the eye is hopelessly lost, regardless of the diagnosis, then enucleation without biopsy is indicated.

#### OTO-RHINO-LARYNGOLOGY.

##### Primary Plasma Cell Tumours of the Upper Air Passages.

C. A. HEATLEY (*Ann. Otol. Rhinol. & Laryngol.*, June, 1953) states that primary plasma cell tumours involving the upper respiratory passages are of interest not only because of their rarity, but also because of their puzzling and unpredictable behaviour. Plasma cells are believed to develop from lymphocytes. Their function is unknown. The tumours have much in common with multiple myelomatosis. The metastatic bone lesions are alike in distribution and identical radiologically and pathologically. The life expectancy, however, differs greatly. Few patients with multiple myeloma survive longer than two or three years. Patients with primary plasma tumours of the upper respiratory passages have survived up to eight years. Bence-Jones proteinuria is not observed in extramedullary tumours, but may be present with skeletal metastases. The cranial lesions of multiple myeloma occasionally involve the jaws and may form tumours within the upper air passages, and these may be mistaken for primary growths. It is therefore necessary to rule out the presence of multiple myelomatosis by appropriate laboratory and radiological examinations. There is a predilection of these tumours for males after the age of forty years. The individual tumour is of a soft red lobulated appearance and is seldom ulcerated. Tumours vary in size from bean-size to egg-size and may be sessile or pedunculated, or may appear as a limited area of submucosal thickening. Only rarely are the tumours multiple. Those originating in the antrum have mostly been soft and friable, tending to bleed easily. They tend to destroy the antral walls and to invade the ethmoid cells and nasal cavity. The depth of invasion is variable, however, although superficial spread in the mucous membranes is common, and deep invasion of bone is

uncommon. In a definite percentage of primary plasma cell tumours metastatic lesions appear, after varying intervals, either in adjacent glands or in the bony skeleton. Some observers, however, have suggested that the skeletal lesions are not true metastases, but new lesions of the same type incited by some common aetiological factor. The plasmacytoma represents a frankly or potentially malignant tumour, but there are many interesting variations in its behaviour. Local recurrence may not take place for as long as nine years after removal or may be noted within a few months. In other instances, after years of apparent cure, secondary foci may become evident and progress rapidly to a fatal outcome. Tumours of the maxillary sinus in particular appear to exhibit a high degree of malignancy. Prognosis, however, is decidedly uncertain with these tumours; neither the gross nor the microscopic appearance affords reliable prognostic information. The plasma cell is usually radiosensitive, and irradiation is regarded as the treatment of choice. A combination of surgery with intracavitary radium and deep X-ray therapy seems to be the accepted method of dealing with plasma cell tumours involving the maxillary sinus.

##### Treatment of Ménière's Disease.

J. A. HENDERSON (*Arch. Otolaryngol.*, March, 1954) states that Horton's method of treatment of Ménière's syndrome with intravenous administration of histamine requires admission of the patient to hospital and is time-taking. A method of ambulant treatment has been employed. Histamine diphosphate, 0.275 milligramme per millilitre for a 150-pound person, combined with an equal volume of diphenhydramine hydrochloride ("Benadryl") 10 milligrammes per millilitre is given by intramuscular injection daily for eight consecutive days. Of 187 patients treated, 111 were improved, 36 gave an uncertain response, 40 were unchanged, but none were made worse. It was noted that the greatest improvement seemed to take place in those with the greatest decibel loss of hearing, and that in these a considerable improvement occurred in the hearing. The combination of histamine with an antihistamine is apparently practicable on account of the very prompt action of the former, while the antihistamine diphenhydramine is so delayed in its action that it does not inactivate histamine.

##### Chronic Sinus Disease.

L. R. BOES (*Arch. Otolaryngol.*, January, 1954) states that acute and chronic sinusitis is less frequently encountered by specialists than it was prior to the advent of the sulphonamides and the antibiotics. Progress in the control of allergic disease is another factor in the reduced incidence of sinusitis. Antibiotic therapy combined with irrigation will often bring about definite improvement to a point, but will not effect a cure, especially when chronicity with mucosal hyperplastic changes is established. Most patients with chronic sinusitis localized to the antrum can be cured by creation of an adequate naso-antral window and removal of grossly diseased tissue from the antrum, although complete removal of the antral mucosa is not always essential. Some require an approach through the canine fossa.

## On The Periphery.

### THE ENIGMA OF THE MONA LISA SMILE.

It has been said that the enigma of the Mona Lisa smile has defied interpretation for four centuries. How did the genius of Da Vinci bring such a vital essence in living expression out of a purely physical medium of paint and canvas? And when he did this, in what exists the fascination, or perhaps repellent sinister qualities, which differently affect observers, in a manner which has made this picture, as seen in the Louvre, a unique and unrivalled accomplishment in the age-long history of art?

It is notorious that Da Vinci was born before his time, as he anticipated by centuries scores of imaginative basic modern inventions (lacking only in the internal combustion engine and other forces we are familiar with today) in flying machines, military tanks, hydraulic pumps, ratchet levers and even rotary multiple machine guns of muzzle-loading type, and the like.

Today he may still be said to have lived before his time in some *mystique*, judged by the unmeasurable in the biological or physiological intricacies and subtleties of human facial expression. It thus remains to unravel his final accomplishment, or some deliberate methodical technique, in his art. In the Mona Lisa, Da Vinci has achieved supreme characterization in making the contemplative vitality in the questioning expression of his subject a measure of an intriguing state of mind. And to do this with all his genius he was employed, as history records, for five years. Contemporary artists, with mature experience and dexterity, admit that a still-life picture or landscape can be achieved in a couple of hours.

In the life-like physiognomy of the Mona Lisa there appears something more than the extra dimensions provided by perspective and the lyric talent developed in the qualified artist; and just as we cannot define beauty, there is here some multidimensional effect, seen as a rule only in a living subject and in this unique canvas in the sphere of art. Yet by a very simple procedure any one artist or non-artist can experiment with the deliberate technique seemingly used by Da Vinci. Let the reader, as in the accompanying figure, take a pair of scissors and divide a copy of the face of the Mona Lisa into left-sided and right-sided halves, preferably using two copies, and making the line of division a little to each side of the mid-line of the nose. Here only one copy has been used. In this division, two distinct types of face and accompanying mood and expression emerge as the artist intended. Such are in the unified synthesis of the completed picture.

It is in this synthesis, blended subconsciously by the observer, that the differentiating technique of the artist is obscured.

On the left side of the face, as viewed by the observer, the individuality is one of serious and judicial contemplation, devoid of any of the *mystique* or guile of the whole face, with its intriguing analytical smile. In fact, here is depicted censorial seriousness, with no yielding or deviation of character. This fraction could be that of a madonna.

On the right side, viewed by the observer, is a quite different theme and work of art. There is an ingeniously portrayed smile of far less quizzical or compromised type than that perceived on viewing the combined effect. This effect is not just a photographic combination by the retina; man's highly evolved apperceptive optical part of the brain synthesizes and confers an added value, in what is vaguely termed the lyric quality, especially developed in the skilled artist.

In passing it may be said that in the Tate Gallery, London, is a picture that objectively reveals the technique underlying this optical-cortical function. A life-sized knight in armour reposes on a bier, while his departed wife appears as a wraith beside him, wearing a white robe and tiara. Close at hand the tiara is depicted in china white. Viewed at the length of the room the gems in the tiara glisten like diamonds. Closer inspection reveals the almost invisible fine coloured lines of the spectrum fringing the china white; and the retina, at a distance, must still register these lines as the basis for the higher optical synthesis. There is, it thus emerges, no trickery or art device in deliberately using a facial differentiation into two types of one-sided expression.

The only device introduced is to appose the eyelids in more elongated ovoid fashion on the smiling side, as compared with the sedate portion. So a state of double-

mindedness is expressed in a reciprocating combination of two hemilateral expressions.

Da Vinci in reality recognized a still unsuspected or uncharted subtlety in normal physiognomy, which can be an occasional part of daily usage, and not a unique flair of the Mona Lisa. A simple experiment before a mirror could convey what is intended.



For just as man is right-handed and left-handed, with partial specific contributions of each hand to a common task, so, under certain conditions and in response to certain experiences, the two sides of the face appear capable of acting individually yet in reciprocal unison as a normal procedure.

It is sufficient for the experimenter to imagine himself confronted by a plausible but insincere attempt to influence



opinion or behaviour, and analyse the details of facial participation, in the presence of what can be called qualified and censorial acceptance.

Visually a half-smile only of tolerant or querulous type is aroused, always on the same side of the face, as one corner of the mouth is automatically elevated and the muscles of the cheek tense up in smooth globular fashion, the whole being dependent on a wide psychic and emotional background. One cannot spontaneously elevate the opposite or unnatural corner of the mouth in this physiological procedure, for an uncomfortable and unrhythmic sense of inhibition is aroused.

For when one side of the face smiles, in the presence of doubt, the other cheek tenses in its censorial function.

In the constructive laws of action and reaction in nature and in nature's equilibria, all forces and inertias are dual, biphasic and actively reciprocal; and such duality in a multiplicity of forms of excitation and inhibition emerges in processual life, where the familiar example of extension or reaching out intensifies withdrawal or flexion, in what is physiologically defined as motor excitation and inhibition. The first over-vigorous movement of the goose step, in marching, applies this inborn rule on an anticipatory storage basis in the locomotor system.

Da Vinci, in a pre-scientific and pre-physiological age, appears to have unravelled this potentiality in life and discovered that even the face utilizes a complex of reciprocating excitation and inhibition in its subtleties of expression. So he must have variously painted Mona Lisa, in both serious and smiling moods, and in a mixture of both, and found his main task in the compound blending of these fractional half-faces, with the resultant production of what, to the observer, is a unified intriguing and contradictory whole. In expression then resides a protective sky-sign of inner approval or disapproval, or both.

Just as the unqualified smile is regarded as a relic of a gracious though protective baring of the teeth, so the unilateral curling of the lip may be excited in the recipient of a long and tedious speech of acclamation in exacting circumstances. In all this, Da Vinci has in the Mona Lisa a unique example and unrivalled ensemble of speaking personality on canvas, and in this he portrays the full spectrum of feeling and intention, as personality imponderably blends in body, mind and spirit. In this, no doubt, we find the reason why, through the centuries, the argument has been debated whether this is a work of genius, debased by a portrayal of what is merely vulgar, or even evil, and sinister in a courtesan. Or whether art transcends merely moral revelations, in making the biophysical live, irrespective of implications. The question, in its final pontifical essence, transcends all this.

The Mona Lisa expression, in a hard-won model, capable of an intensity and depth of expression potential in few human beings, bespeaks in her a life of equivalent experience.

In this choice, the race being to the alert, we would expect the Mona Lisa to be found by Da Vinci, the universal naturalist, in terms of his times. What Da Vinci seems to have portrayed is a human response of qualified and amused conviction to plausible deceit well meant or the reverse. For, as Socrates says, you cannot have a flair for comedy without a reciprocal sense of depth and of tragedy; and so in art and expression.

If we denote the Mona Lisa as vulgar or sinister, she may be also more sinned against than sinning in her reaction.

It is surely to be expected that, in a life that is so often confronted by contradictory paradox, there is a human expression of equivalent type; or to come to the ordinary, the curling of the lip which eases tension translates better than words the familiar "Oh yeah". Without wishing to pursue this superficial aside, it is of interest to note that in the mimicry of this colloquial expression, different degrees of physiological depth are tapped. The degree of conviction conveyed exists in a unilateral vibratory use of the muscles of the tongue and cheek, as such are reflexly excited by Broca's cortical area, and also respiratory and vocal cord reflexes. From this complex, varying intonations are derived.

The following significant encomium, quoted from Da Vinci, was recently encountered in the volume "Doctors by Themselves", by Edward G. Griffith:

My Lords, Fathers, Deputies. Just as for the doctors, the tutors and guardians of the sick, it is necessary that they should understand what man is, what life is, and what health is, and how a parity or harmony of elements

maintains this, and in like manner a discord of these ruins and destroys it; and anyone who has acquired a good knowledge of these conditions will be better able to effect cures than one who is without it.

You know that medicine when well used restores health to the sick, and he who knows them well will use them when he also knows what man is, and what life and the constitution are, and what health is. Knowing these well he will know their opposites, and being thus equipped he will be nearer to devising a remedy than anyone else. In just the same way a cathedral in need of repair requires a doctor-architect who understands well what a building is, and on what rules the correct method of construction is based, and from whence these rules are derived, and into how many parts they are divided, and what are the causes which hold the structure together, and make it permanent, and what the nature of the weight is, and what the desire of strength, and how these should be interwoven and bound together, and what effect their union produces. Whoever shall have a true knowledge about the above-named things will satisfy you both by his intelligence and his work.

In the light of the above, and of four centuries of knowledge, one might add that the science of biology and health, despite monumental conquests, may in its present stage of imperfect synthesis be regarded, in the future, as existing in a state of development comparable to the pre-Faradian stage of electromagnetic knowledge, until scientific insight into the rationale of the growth element in the metabolic-trophic complex of life is solved as a criterion to assess fundamental deviations which lead to pathological deformation.

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## Medico-Legal.

### INQUIRY BY THE DISCIPLINARY TRIBUNAL IN NEW SOUTH WALES.

THE Disciplinary Tribunal, under the provisions of the *Medical Practitioners Act, 1933-1953*, recently considered reference by the Board of Health whereby two medical practitioners were severally charged with "infamous conduct in a professional sense". The Tribunal was constituted by His Honour Judge Lloyd, Chairman, and Dr. W. D. K. Craig, Dr. J. J. Witton Flynn, Dr. W. Cotter Harvey and Dr. E. G. McMahon, members. In each case the medical practitioner in question was found not guilty of the charges laid against him. The whole record of the proceedings is too long for publication, but a summary of it is given hereunder.

#### The First Matter.

In the first matter, heard on June 7 and 8, 1954, it was alleged that Dr. Peter Mathers, on January 25, 1953, at Cessnock, failed to give medical attention to Agnes Stuart Powell when reasonably required so to do.

It was common ground that at the relevant time Dr. Mathers was one of a group of eight doctors, all of whom were members of the Hunter Valley Medical Association, which is affiliated with the New South Wales Branch of the British Medical Association. The former Association had entered into an agreement with the Cessnock District Medical Committee comprising miners' delegates whereby medical attention would be conferred upon miners and their dependants upon certain terms. There was deducted six shillings per fortnight from the pay of each of the 5000 miners concerned in the scheme, and this money was divided amongst the doctors in question. With some exceptions, such as confinements and claims for workers' compensation, the doctors had to provide for the miners' "wants in relation to their health". It was a term of the agreement that at week-ends and holidays there would be at least three doctors on duty. A person entitled to benefit under the scheme could nominate a chosen doctor for attention in the ordinary way, and, in the matter under consideration, Mrs. Powell, the deceased patient, had Dr. J. L. Boorman as her regular medical attendant. At the time of her collapse, however, Dr. P. Mathers was on duty under the scheme.

The case for the Board of Health was as follows:

Mrs. Powell, who was twenty-nine years of age, had been a sufferer from chronic asthma for a long time. Dr.

J. L. Boorman had attended her on numerous occasions, and about three years before her death had instructed her how to give herself an injection of adrenaline when she required it. Dr. Mathers had attended her once, about twelve months prior to January, 1953, when he was "on call". On Friday, January 23, 1953, she had an attack of asthma and this lasted off and on to Sunday, but it seemed no worse than attacks she had had in the past. The Powells did not think it was bad enough to require medical attention, and so nothing was done except that she had taken some injections during those days. On the Sunday night, after they had gone to bed, Mrs. Powell woke her husband and asked him to put on the light, which he did, and she then gave herself an injection of five minims of adrenaline. She then collapsed after saying: "I am going." Mr. Powell then immediately awakened her brother, Mr. Husband, who was living with them, and he, after awakening a neighbour, Mr. Caddis, rode his bicycle to Dr. Boorman's residence which was about five hundred yards away. When he got there he saw a notice on the door to say that Dr. Mathers was on call, and he then went directly to the latter's house a short distance away. Dr. Mathers came to the door in his pyjamas and Husband said that his sister was sick with asthma and would he come. He replied: "How bad is she?" Husband said: "She has collapsed." The doctor then asked had she ever been to hospital before. He told him once. He then said that he would call the ambulance. Husband returned to the Powells' home, arriving there at about a quarter of ten minutes to 12. The ambulance had not arrived by five past 12 and Husband then rang the ambulance station. The ambulance arrived, according to Mr. Powell, Mr. Husband and Mr. Caddis, at twenty minutes past 12. Although the log book of the ambulance had been lost in a subsequent move from one station to another, the record of case histories showed that it left in this matter at midnight and returned to the station at 12.30, and the ambulance officer concerned stated that, although he had not been told it was an urgent case, it would have taken about three minutes to get to the Powells' residence. The ambulance was not equipped with any oxygen apparatus. When Mrs. Powell was put in the ambulance the attendant said: "This woman is dead." Dr. Mathers did not at any stage go to the home nor to the hospital. Sister Roberts, who was on duty on the day in question, could not fix the exact time that Dr. Mathers rang her, except to say that it was round about midnight. Dr. Mathers rang her and said that Mrs. Powell was coming in from 52 Bridge Street, Cessnock, and would she send for the ambulance. She rang the ambulance immediately and then called the resident doctor to tell him that an admission was coming in. Although she had not been informed what was the matter with Mrs. Powell, she had nursed her before and presumed that she had asthma. When Mrs. Powell arrived she was examined by the resident, Dr. Smith, who pronounced life extinct. She then told Mr. Powell that his wife had died and immediately rang Dr. Mathers and told him. She denied that Dr. Mathers had said to her: "See that she gets oxygen and some coramine." On the Monday Mr. Powell asked Dr. Mathers if he would give him a death certificate and the doctor said he would like to hold a post-mortem before issuing one. Powell said to him: "Do you think she committed suicide?" He did not actually answer. Powell then asked him why he did not attend the hospital, and he said: "I didn't think it was necessary, but I will have to go and see the police before I issue the certificate." The doctor left and a little later came back and issued the certificate. On February 20, at a conference between some members of the Medical Committee and Dr. Mathers, the latter was asked why he had not attended Mrs. Powell, and he replied that he did not think it was necessary. He was then asked why he merely telephoned the hospital, and he did not answer. The death certificate showed as the immediate cause of death, "Myocarditis", and then "Condition giving rise to the above—chronic asthma".

In opening the matter to the Tribunal the Counsel for the Board of Health said:

The gravamen of the charge I put to the Tribunal is that it is suggested by the complainant that he should have immediately gone to Bridge Street where the Powells resided and ministered to her needs, if necessary, to give her oxygen. Secondly, it will be put that he should have gone there in order to see that she was fit to travel in the ambulance, and we say that he should have notified the ambulance of the type of case it was so that they themselves could have come equipped, if he thought it was unnecessary for him to come there, and then we say he should have attended the hospital.

Dr. P. MATHERS, in his evidence, said that he had commenced to practise in Cessnock in 1947. Without going into details, he said that at and prior to the time in question there were strained relations between the local doctors and the Medical Committee. He had seen Mrs. Powell about twelve months or so before her death when she was out of adrenaline and he gave her an injection. On January 25 he was in bed dozing off when Husband came to the door. Husband told him that Mrs. Powell "was very sick; she had done herself in; she had given herself an injection". The witness asked him if she had been in hospital before and he did not answer. The witness had then said: "Very well then, but there is nothing I can do at home. I will have to make arrangements to get her into hospital straight away." He then rang the hospital immediately and said to Sister Roberts: "I am sending in a sick woman who has collapsed, Mrs. Powell, an asthmatic, and I want you to give her oxygen and coramine on admission. You must send the ambulance straight away." It was about 11.45 when the door-bell rang and he had spoken to Sister Roberts less than five minutes afterwards. He was later rung by the sister, before 12.30, who told him the patient was dead on arrival. He did not know of anything that could possibly have been done had he gone to the home and he believed that the best thing was to get her to hospital immediately. If he had had oxygen and he had thought anything could have been done he would have gone to the home. He did not know whether or not the ambulance was equipped with oxygen. At the time the custom was for a doctor to ring the hospital first to issue instructions to the sister in charge to ring the ambulance. There was a direct line from the hospital to the ambulance. He had spoken to Dr. Boorman and Dr. Short and later issued the death certificate after the police sergeant had informed him that the coroner had said it was in order to do so. He had previously seen the body in the mortuary in company with the Government Medical Officer.

When cross-examined, he said that, knowing that she was an asthmatic and that she had collapsed, he could say without seeing her that the only effective treatment would have been in hospital. After Husband went and he had rung the hospital he went back to bed, but did not go to sleep. He reclined with the light on waiting to get a report from the hospital to hear that the patient had been admitted and what was her condition. He knew full well that there was a medical officer there to undertake what treatment he had ordered to the sister. If the deceased had been his own patient he would have done the same thing. In circumstances such as these he did not go to the hospital unless the residents thought it necessary. It would have taken about five minutes to get dressed and go to the home of the deceased. It was common for a general practitioner not to have oxygen; Dr. Mathers's partner did not have it either. At the time he did not have any cortisone. If Husband had said that Mrs. Powell was dying he would not have gone but would still have sent her to hospital; there would be nothing he could do for her—he knew her condition from his previous experience. He believed that she had collapsed from asthma and was unconscious. At the time he did not know whether Dr. Boorman was at home and it did not occur to him to ring him. He had never treated asthma patients with oxygen at their homes, but had done so at hospital. In January, 1953, he did not know that the ambulances were not equipped with oxygen—he ascertained it subsequently. The words, "She has done herself in—she gave herself an injection", suggested that she had done something that might be remedied. When Mr. Burke said at the conference on February 20, "Knowing the woman had collapsed, did you think it proper merely to 'phone the hospital for an ambulance and go back to bed", or words to that effect, he did not think that he made any answer because he thought that he did all that could have been done and he was not prepared to start any quarrels. He had asked Husband if Mrs. Powell had ever been to hospital before so that he could tell them about her if she had not. On many occasions doctors were called out in the middle of the night unnecessarily and at times that was very annoying. After Husband had called that night Mrs. Powell was his patient and it was his responsibility to look after her and not leave it to a resident.

Upon reexamination Dr. Mathers said that the rule at the hospital was that if the resident thought an honorary was required he then sent for him. He did not think a doctor would last long in the town if he sent for the ambulance as an easy way to avoid what he believed to be an unnecessary call.

Dr. BENJAMIN SHORT then gave evidence. In January, 1952, he was Government Medical Officer for the district and for three years had been an honorary at Cessnock Hos-



pital. He remembered Mrs. Powell's death. Dr. Mathers had rung him at about 8 o'clock on January 26, 1953, and told him that, in view of the possibility of an over-dose of adrenaline, he did not propose to give a death certificate. The witness had replied that there could be no post-mortem without instructions from the coroner, but he was later informed that a post-mortem would not be necessary. On the facts, the wisest thing would be to get Mrs. Powell up to hospital—he knew that there was little that could be done if he rushed to the patient and that the treatment she would require would be available only at the hospital. After the patient had been examined by the resident either the sister or the house doctor would telephone the honorary if the need arose. At the time in question, the only provision for resuscitation with the ambulances was "Carbogen" which was of no value to asthmatics. He had always found Dr. Mathers to be most conscientious as regards his patients and one who would not refuse to make a call if he thought that he could do any good by making it. His reputation with other doctors stood high. He was, however, a shy man and not at ease in expressing himself.

When cross-examined, Dr. Short said that he might be tempted to go to the patient in similar circumstances, but he would resist it in the interests of the patient. He would not go straight to the hospital, but would wait for a call first—not much would be gained by rushing up there with a doctor on the spot. Whilst it was just as easy for a doctor to ring the ambulance direct, there was at that time, as a rule, an ambulance at the hospital standing by. All doctors in private practice at Cessnock were honoraries.

#### Judgement.

Judgement was given in the following terms:

The Tribunal is of the opinion that in cases of an urgent nature where a patient has not been attended immediately prior to the making of arrangements for admission to hospital, it is desirable that the attending doctor should proceed to the home of the patient after these arrangements have been made.

The Tribunal, having carefully considered the evidence relating to the circumstances of the death of Mrs. Powell, is of the opinion that neither oxygen nor any other treatment would have saved her life.

The Tribunal considers that although Dr. Mathers committed an error of judgement in not visiting Mrs. Powell at her home on the night of 25th January, 1953, it is not satisfied that this amounts to "infamous conduct in a professional respect".

The Tribunal therefore finds that Dr. Peter Mathers is not guilty of infamous conduct in a professional respect.

#### The Second Matter.

The second case, which was heard on June 8 and 9, 1954, was a charge against Dr. Desmond Lees Peate, the allegation being that on December 26, 1952, he failed to give medical attention to one Esme Merle James when reasonably required so to do.

In opening the case to the Tribunal, Counsel for the Board of Health stated that Dr. Peate was a member of the Hunter Valley Medical Association and was a party to the general agreement between that Association and the District Committee. Confinements, however, did not come within the scheme of this contract, and since the matter in question concerned a confinement, Dr. Peate was attending this patient not by virtue of such agreement, "but just as a doctor and patient in the ordinary sense".

Mrs. JAMES, the patient, gave evidence as follows: When she became pregnant with her first child in 1950 she consulted Dr. Peate and the child was born on April 14, 1951. Something happened after the birth of the first child and subsequently certain tests were carried out on her. Dr. Peate did not say anything to her about the danger of having a second child, but she did receive information from somebody else in relation to that. She had a preference for Dr. Peate as a doctor and had confidence in him. She became pregnant again about March, 1952, and first saw Dr. Peate about a month or six weeks later. She then asked him would her lungs be all right, and he said that if she felt well and kept herself checked up she would be all right. Thereafter she saw him about every four weeks, the last time being two or three days before she was taken to hospital. The last few times she asked him would he be present at the confinement and he said "yes". She was taken to hospital about half-past 12 or one o'clock on the morning of December 26, 1952. When she arrived Sister Wallace was on duty, and after a young nurse had taken

the particulars she was straightway prepared for the table, and Sister Wallace and the nurse kept checking her until the time for the birth. At that stage no doctor had come to her. At 7 o'clock the first sister went off duty, having rung the doctor at about ten to 7. She was conscious and could hear her quite distinctly, the telephone being in the corner of the labour ward. The membranes ruptured about ten to 7. After Sister Wallace had rung, Sister Wraith came on duty and the baby was delivered nearly straightway. No doctor was present during the actual confinement and the nurses looked after her. On the second day Dr. Conolly came through and asked her how she was and walked away, and apart from that nobody had examined her before. When Dr. Conolly questioned her as to how she was she said: "All right, thank you." Dr. Peate first visited her in relation to the confinement on December 30. After he had examined her she asked him could she go home on the sixth day and he said he would see her before then. She said: "I have been here four days now and this is the first time I have seen you." He just said: "I will see you before the sixth day." In fact, she was allowed to go home the following day. She booked in for the confinement through a friend about four months before and she indicated then that she desired Dr. Peate to attend her. She had been shown a card by the hospital which indicated that Dr. Peate was to be present at the confinement.

Under cross-examination Mrs. James said that she had been awake and conscious from the time she went into hospital until 9 o'clock that day and had a clear memory of what happened during that time. She did not know whether Sister Wallace or a nurse spoke to the doctor on the telephone, but she heard the actual conversation. She had said before that she actually heard Sister Wallace ringing up. She knew Dr. Denning, a resident medical officer at the hospital, and she swore that he did not arrive during the delivery of the child and he was not there for the rest of the confinement. He might have come to the door, but he did not come in. She was positive that Dr. Peate did not come and visit her between 8 and 9 in the morning of December 26, 1952. She was slightly angered when Dr. Peate did not come, "but once it was over it was over". She complained to the girl that took the lunches and to the woman in the bed next to her that no doctor had been present, but she could not think of the name of anybody else that she had complained to. After the birth of the first child tests were carried out at Cessnock Hospital and many doctors had a look at her. Dr. Short took X rays of her lungs and did a test on her skin and afterwards informed her that she was not tuberculous and had no chest complaints of any nature whatsoever. Her father, Mr. Barrett, was not present when she was so informed, but he knew—he spoke to the doctor.

On further cross-examination, Mrs. James said the sole doctor that she saw throughout the second pregnancy was Dr. Peate, but she later corrected this and agreed that she had first seen Dr. Hennessy, Dr. Peate's partner, who took her blood pressure and gave her a drug that relieved her morning sickness. She again saw Dr. Hennessy on her second, third and fourth visits. The first time she saw Dr. Peate was about five weeks before her confinement. She thought she had seen Dr. Peate throughout the pregnancy; she went to see him, but it might not have been him.

The SECRETARY OF THE CESSNOCK DISTRICT HOSPITAL, who was called to produce certain records and who gave evidence of the system of entries on admission cards, said under cross-examination that a complaint had been made in respect of Mrs. James by some members of the Medical Committee of the different lodges of the district. A minute book entry read:

A deputation from the Medical Committee met the President, Hon. Secretary and Secretary of the Board on Tuesday, 24th February. The deputation consisted of Mr. T. Burke, Mr. F. Steel, Mr. S. Creswell and Mr. J. Barrett. A complaint was made in regard to Mrs. James and Mrs. Jones, daughters of Mr. J. Barrett. Also some information was requested re admission to Hospital of Mrs. Powell, deceased. In the case of Mrs. James, who was admitted on 26th December at 1.30 a.m., a complaint was made that Dr. Peate had not been sent for in time and the baby was born at 7.10 a.m. on that day. Sister Wraith said that Dr. Peate had been sent for in conformity with the usual practice in regard to the progress of the birth. It was claimed that this system was wrong and had Mrs. James been given an anesthetic it may have prejudiced her life as she was suffering from a lung complaint.

The witness also said that although no complaint in writing had been made, he and the President interviewed

the Matron and Sister Wraith and found out everything that had happened. Dr. Peate had been in practice in Cessnock for a great many years and had been one of the resident medical officers at the hospital. He had never heard of any single complaint against Dr. Peate in respect of his professional conduct and it was generally acknowledged that he was one of the best residents they had ever had at Cessnock Hospital.

SISTER WALLACE gave evidence that she was a sister attached to Cessnock Hospital on December 26, 1952. She was able to refresh her memory from an exercise book kept in the hospital block. Mrs. James had been admitted at 1 a.m., but she could not remember much about the case. "We admit so many people and 1952 is a long way back to remember a particular case that did not have any peculiarities about it. I did not have any occasion to send for a doctor. I could not have been worried about it in any way. If I had it would have been outstanding and I would have remembered it. There could not have been any complications whatsoever." She went off duty at 6.45. She could not recall whether the baby had been born before she went off duty or not, but if there had been some complication she would certainly have remembered it. When a person was admitted to the hospital for a confinement, the doctor was notified of the arrival only if he stipulated it. They called for the doctor if they thought the patient was going to have the baby when there was pressure. They knew the residences of the various doctors and approximately how long it would take each doctor to come. They generally let the doctor know when the membranes ruptured. She had no recollection of having rung Dr. Peate in relation to Mrs. James. The last entry she had made on her daily report was that the pains were becoming stronger at 4 a.m. There could not have been anything different when she was relieved by Sister Wraith, otherwise she would have reported it.

When cross-examined she said she had found Dr. Peate a very conscientious doctor. Sisters did their best to assist doctors in not having to spend unnecessary time at the hospital. It often happened that they gave the doctor warning and then later on gave him another call and said: "I think you had better come now." There were medical officers in cases of emergency and sometimes even the resident medical officer who was right there on the premises had not arrived in time.

MRS. CURELEY, formerly Sister Wraith, gave evidence that she was a sister at Cessnock District Hospital on December 26, 1952. Refreshing her memory from notes made at the time, she said that Mrs. James's baby was delivered at ten past 7 and that Dr. Denning was present after the baby's head was delivered. She actually did the delivery and Dr. Denning stood beside the bed. The baby's cord was around the neck twice. This was quite a common occurrence and all that had to be done was that the cord was tied and snipped. It presented no difficulty. The delivery in question had been very quick at the latter end. After she came on duty the membrane had ruptured; she scrubbed up and prepared to deliver the baby and sent a nurse to ring Dr. Peate. The message was that Mrs. James was in advanced first stage labour, the membrane had ruptured, and would he come soon. The birth was completed at 7.20 and she asked the nurse to ring Dr. Peate to tell him the birth was completed and everything was normal. She thought Dr. Peate had seen Mrs. James about nine o'clock that morning, but she could not be perfectly sure. When cross-examined she said that they did their best to spare the doctors whatever time they could so that they would not be long away from their practice unnecessarily. Sometimes doctors were warned two, three or even on more occasions of the progress of the patient whether they needed to come or not, and when she sent the first message she had in mind that he could get up, get dressed, have his breakfast and get ready. She had attended to a number of confinements in which Dr. Peate was the doctor and he was a conscientious man.

DR. DESMOND LEES PEATE gave evidence as follows: He had been a resident at Cessnock Hospital in 1939 and 1940, and since his discharge from the Air Force in 1945 had practised in Cessnock. At the relevant time he had worked immediately with Dr. Hennessy. He had confined Mrs. James in 1951. After or during that confinement she had developed an inflammatory condition in the apex of her left lung. Other doctors had given her tests and were ultimately satisfied that she had no lung ailment. He had told her that until the lung condition had been fully investigated and had cleared up she should not have any further children.

Although he might have seen her in consultation before November 6, so far as her confinement and personal examination were concerned, he did not see her until that

date. Dr. Hennessy had seen her on the earlier occasion and the first four entries on her card were made by him. On November 6 he noted: "Engagement of presenting part: vertex." There was nothing to suggest that this would be anything but a normal birth. If there was a complication almost invariably he gave the patient a note to give to the sister when she was admitted in labour, informing her of the situation and asking that she ring him. He did not know of such a position in relation to this confinement. The practice of the hospital was that at night time the sister watched the case if it was normal—if there was any abnormality she would ring the doctor irrespective of the hour. When everything was going quite normally one got one's first call when the baby was to be born. When wanted instantly the nurse rang and said, "Mrs. X is ready for delivery, doctor", and he then went straight to the hospital. In this case he had not got any ring before the birth of the child other than at just before 7 o'clock that morning. The message he received was that Mrs. James was in labour, her membrane had ruptured and sister would be needing him soon. He had assumed that that was a warning message; he got up, dressed and washed and waited for a call. When the telephone went the second time the message was that Mrs. James and her baby were quite well, Dr. Denning was there for the third stage, and there was no need for him (Dr. Peate) to rush up. He visited her between 8 and 9 while doing his rounds. He said to her, "My word, you had a quick baby this morning", and he did not think she said anything in reply. He saw her on subsequent occasions and she never made any complaint about his not being there.

On February 20 at a meeting with members of the Medical Committee he told Mr. Barrett, Mrs. James's father, that the baby had been born too quickly for him to get there. He had asked Sister Wraith on January 26 why she had not given him time to get there and her explanation of the rapid birth was quite adequate, as far as he was concerned.

When cross-examined, he said that Mrs. James was apprehensive but was a good patient. She was anxious to have his services and he had every intention of being at the confinement. Although it was a public holiday he was on call under the scheme that was existing between the various partnerships. It was a natural remark to tell Mr. Barrett he was sorry he did not get there. He did not think it peculiar that Mrs. James did not answer when he was at the hospital between 8 and 9 o'clock. He could not remember what she said or if she said anything. He did not say anything to her as to why he was not present because he had had an explanation from the sister which he considered quite adequate. Since it was holiday time, Dr. Conolly and he were then alternating days at the hospital. He would not agree that he saw her on the 28th. She was in a two-bed room. He could not recall if another patient was in the room.

DR. EDMOND JOHN HENNESSY, Surgical Registrar at the Royal Newcastle Hospital, and formerly a partner of Dr. Peate's in Cessnock, was the next witness.

He had seen Mrs. James during her second pregnancy and he had not detected any abnormality at all during the times he saw her. He was familiar with the practice at the hospital with regard to calling doctors in maternity cases. He would get a warning that Mrs. So-and-So had been admitted, that she was in such and such a stage of labour and he might be needed in an hour or half an hour or other specified time. That was followed by a second warning saying: "Doctor, we will need you within a few minutes." He knew that Sister Wraith was a very competent nurse.

DR. GRAHAM GORDON DENNING then deposed that he was practising at Cessnock, and on December 26, 1952, he had accepted the position of senior medical officer at Cessnock District Hospital. He was there that day. He had no memory of being called to Mrs. James's case, but he would have remembered it if there had been any complications at all. Perhaps five times during his residence he had come down to the bedside and stood there while the sister delivered a child.

DR. BENJAMIN SHORT, who practises at Cessnock, said that in 1951 he was an officer attached to the Joint Coal Board and he was Government Medical Officer. He was also in charge of the Chest Clinic of the Department of Health. About two years ago he had seen Mrs. James, and after carrying out tests he was satisfied that she had no tuberculosis and in his opinion never had, and she had no significant chest disease at the time. He had conveyed the result of this examination to Mr. Barrett and at a later time also informed Dr. Peate.



DR. WILLIAM ARNOLD CONOLLY, who is senior doctor in the group of eight doctors practising together at Cessnock, corroborated the evidence of the other witnesses as to the system of warnings in maternity cases and to alternating visiting days at the hospital by doctors during the week of Christmas and New Year. He said that Dr. Peate had come to Cessnock as resident in the early days of the war or just before the war, and whilst there were very many good residents, he was the most conscientious and efficient that they had had. Since the war he was an assistant and later a partner, and he could say that one did not find anyone in the State or the Commonwealth who could be more conscientious. He did not think a sister would say: "Mrs. X is in an advanced stage of pregnancy. Would you come soon?" He had never got such a message. If he did, it would depend on knowing the patient how soon he would go. In such circumstances twenty minutes would be almost immediately. He would take "come soon" to mean three-quarters of an hour to an hour.

#### Judgement.

The judgement of the Tribunal was as follows:

The Tribunal is of the opinion that the evidence in this case discloses that both the pregnancy and the confinement of Mrs. James were normal and uneventful and that Dr. Peate and his partner gave all medical attention required.

The Tribunal is of the opinion that the absence of Dr. Peate at the delivery of the child was due to the rapidity of the second stage of labour and that no blame attaches to him in respect thereof.

The Tribunal is also of the opinion that the complaint laid is without foundation and that Dr. Peate is completely exonerated.

The finding is that Dr. Desmond Peate is not guilty of infamous conduct in a professional respect.

The Tribunal recommends that the costs of Dr. Peate be paid by the Crown.

## British Medical Association News.

### THE AUSTRALIAN SOCIETY OF ALLERGISTS (BRITISH MEDICAL ASSOCIATION).

#### Annual Meeting.

The second annual meeting of the Australian Society of Allergists (British Medical Association) was held at the Medical Society Hall, East Melbourne, on Monday, May 24, and Tuesday, May 25, 1954. Eighteen members were present.

Dr. Charles Sutherland retired from the chair and, after thanking the members for their support during his term of office, inducted Dr. Robert Steel as President. Dr. Steel referred to the great amount of work that Dr. Sutherland had done as the inaugural President.

The following officers comprise the executive: *President*, Dr. Robert Steel (Sydney). *President-Elect*, Dr. Ivan Maxwell (Melbourne). *Secretary-Treasurer*, Dr. Russell Donald (Melbourne). *Committee Members*, Dr. Ward Farmer (Melbourne), Dr. D. M. Ross (Sydney), Dr. C. Piper (Adelaide), Dr. G. Stening (Sydney), Dr. C. Sutherland (Melbourne).

Notice of motion was given for inclusion in the rules of the office of past president.

The following papers were read and discussed: "The Classification of Bronchial Asthma" (Dr. Robert Steel), "Ménier's Syndrome and Allergy" (Dr. R. Donald), "The Use of 'Myocerin' in Bronchial Asthma" (Dr. B. Riley), "General Allergy" (Dr. C. Piper), "Fixed Drug Eruptions" (Dr. E. Chenoweth), "Remarks on the Weather" (Dr. C. Sands), "A Survey of Molds in Western Australia" (Dr. H. Breidahl).

Demonstrations were given to members at the allergy clinics at the Alfred, Royal Melbourne and Prince Henry's Hospitals.

It was decided to hold the next annual meeting at Sydney just before the Australasian Medical Congress (British Medical Association) in August, 1955.

## Medical Societies.

### MEDICAL SCIENCES CLUB OF SOUTH AUSTRALIA.

A MEETING of the Medical Sciences Club of South Australia was held in the Anatomy Theatre, New Medical School, Frome Road, Adelaide, on June 4, 1954.

#### Growth of Subterranean Clover.

DR. J. N. BLACK read a paper on the interaction of light and temperature in determining the growth of subterranean clover. He said that the early vegetative growth of subterranean clover (*Trifolium subterraneum*) was determined for 52 consecutive weekly periods, plants at a comparable morphological stage being used for each initial sampling occasion. Relative growth rates, net assimilation rates and leaf-area ratios for the 52 periods were analysed in relation to integrated light intensity and maximum and minimum temperatures. Significant positive effects of light and maximum temperature, and a significant negative effect of minimum temperature on net assimilation rate, and significant positive effects of light and minimum temperature and a significant negative effect of maximum temperature on leaf-area ratio were demonstrated, the positive and negative temperature effects on each being of comparable magnitude. Relative growth rate was the product of net assimilation rate and leaf-area ratio, and as expected was shown to be independent of temperature but significantly correlated with the amount of light received.

In contrast to results reported previously for other species, relative growth rate was not protected against fluctuations in light by a differential effect on net assimilation rate and leaf-area ratio, since both were decreased in reduced amounts of light. However, the contrasting and opposite effects of maximum and minimum temperatures on net assimilation rate and leaf-area ratio provided a mechanism tending to maintain a constant relative growth rate despite variations in temperature.

#### The Flow of Blood in Small Tubes.

DR. M. G. TAYLOR read a paper on the flow of blood in small tubes. From a brief discussion of the Poiseuille equation for flow through a tube, and the conditions under which it was valid, consideration was given to the anomalous behaviour of blood in viscometers. Dr. Taylor said that the shear-dependence of the coefficient of viscosity had been ascribed to the formation, in small tubes, of a marginal, cell-free zone, which allowed the fluid to flow as though slipping at the walls. A tentative explanation was given of the forces involved in forming such a zone, together with some discussion of the orientation of the cells in the stream. The significance of the rotational motion of the suspended particles was also touched on, as it was considered that such disturbances of the "laminar" flow must be taken into account in theories of diffusion of substances into and out of the capillary circulation.

## Out of the Past.

*In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.*

#### NATIVE SPEARS.<sup>1</sup>

ON first setting foot in the country we were inclined to hold the spears of the natives very cheap. Fatal experience has, however, convinced us that the wound inflicted by this weapon is not a trivial one; and that the skill of the Indians in throwing it is far from despicable. Besides more than a dozen convicts who have unaccountably disappeared we know that two, who were employed as rush cutters up the harbour, were (from what cause we are yet ignorant) most dreadfully mangled and butchered by the natives. A spear had passed entirely through the thickest part of the body of one of them, though a very robust man, and the skull

<sup>1</sup>From "A Narrative of the Expedition to Botany Bay", by Watkin Tench (1789). From the original in the Mitchell Library, Sydney.

of the other was beaten in. Their tools were taken away, but some provisions they had with them at the time of the murder and their cloaths were left untouched. In addition to this misfortune two more convicts, who were peaceably engaged in picking of greens, on a spot very remote from that where their comrades suffered, were unawares attacked by a party of Indians, and before they could effect their escape, one of them was pierced by a spear in the hip, after which they knocked him down and plundered his cloaths. The poor wretch, though dreadfully wounded, made shift to crawl off, but his companion was carried away by these barbarians and his fate doubtful until a soldier a few days afterwards picked up his jacket and hat in a native's hut, the latter pierced through by a spear. We have found that these spears are not made invariably alike, some of them being barbed like a fish gig<sup>1</sup> and others simply pointed. In repairing them they are no less dextrous than in throwing them. A broken one being given to an Indian, he instantly snatched up an oyster shell, and converted it with his teeth into a tool with which he presently fashioned the spear and rendered it fit for use; in performing this operation the sole of his foot served him as a workboard. Nor are their weapons of offence confined to the spear only, for they have besides long wooden swords, shaped like a sabre, capable of inflicting a mortal wound, and clubs of an immense size. Small targets, made of the bark of trees, are likewise now and then to be seen among them.

### Correspondence.

#### THE NEW SOUTH WALES BOARD OF HEALTH AND THE MEDICAL DISCIPLINARY TRIBUNAL.

SIR: It is the law of New South Wales that any complaint against a medical practitioner that he has been guilty of infamous conduct in a professional respect must be considered in the first instance (after due investigation) by the Board of Health. To this body is entrusted the duty of deciding whether a prima facie case has been made out and of referring the matter to the Medical Disciplinary Tribunal if the circumstances warrant.

This procedure was followed when the Tribunal was called upon recently to inquire into complaints, unrelated to one another, against two doctors living in the same country town. The grounds of complaint did not in either case contain anything to suggest that the doctor had been guilty of conduct which could be regarded as infamous, either as that word has been judicially defined or by any stretch of a reasonable man's imagination. It did not appear in either case that the doctor had committed an offence. On the face of it, having regard to the grounds of complaint, the charges before the Tribunal were bound to fail, and in fact they did fail. To me, therefore, it seems altogether wrong that the Board of Health should have referred these complaints to the Tribunal. It placed on the doctors a grim obligation to leave their work and defend their honour and reputation against official impeachment in open court. It seems to me that the Board of Health in these cases committed two very serious errors of judgement within a short space of time. If this is so, it is pertinent to inquire whether the Board is qualified to undertake the duty entrusted to it.

It is in the public interest that medical discipline and the preservation of the profession's good name should be the responsibility of the profession itself. This is acknowledged by the legislature, which has provided accordingly. The law thus distinguishes between the wrongdoings of doctors and their unskilful or negligent acts, which are dealt with by the ordinary legal processes, on the one hand, and, on the other hand, infamous conduct in a professional respect, of which, according to the judicial definition, a medical man may be said to be guilty if it is shown that in the pursuit of his profession he "has done something with regard to it which could be reasonably regarded as disgraceful or dishonourable by his professional brethren of good repute and competency"—it is provided that this should be dealt with by specified "professional brethren". The one weakness of the New South Wales law lies in the curious circumstance that it is possible for medical practitioners to be in a minority on the Board of Health, as is the case at the present time. This anomaly as it relates to medical discipline would be rectified if the *Medical Practitioners Act*

were to be amended so that duty now imposed on the Board of Health were laid on those members only of the Board who are medical practitioners. The other members, one imagines, would be glad to be relieved of a duty for which they are not qualified.

Yours, etc.,  
185 Macquarie Street,  
Sydney,  
June 21, 1954.  
DOUGLAS ANDERSON.

SIR: Dr. Douglas Anderson has been good enough to refer to me a copy of his letter to you dated June 21, 1954.

The duties required of the Board of Health of New South Wales by the provisions of Section 27 of the *Medical Practitioners Act* include that of considering complaints or charges against registered persons, when made in accordance with the requirements of the Act and Regulations. On receipt of such a complaint or charge the Board of Health must cause it to be investigated by some person or persons, and thereafter the Board, if it considers the circumstances so warrant, may refer the matter to the Disciplinary Tribunal.

The Act does not confer on the Board authority, during investigation of a complaint or charge, to require evidence to be given on oath, or to insist on replies from persons who may be in possession of relevant information. The Board's responsibility in carrying out its duties under the Act might conceivably lead it, in cases where information is refused, to refer the case to the body which has power to obtain the information under oath.

Yours, etc.,  
H. G. WALLACE,  
President, Board of Health of  
New South Wales.

Department of Public Health,  
Sydney,  
July 5, 1954.

#### RUBELLA (GERMAN MEASLES, ROTHEN, RUBEOLO).

SIR: There are others more competent than I am to answer the letter of Dr. Fergus Yeates (M. J. AUSTRALIA, July 24, 1954), but lest they fail to respond the following information may help him. Recently on the clinic that I attend at the Victorian Eye and Ear Hospital we have seen two cases of fresh rubella embryopathy. These babies had typical cataracts (fortunately monocular), heart lesions and possible deafness. The 1954 rubella virus is thus capable of causing these congenital lesions. A very acceptable explanation concerning the large numbers seen in 1938-1940 may be read in Sir Macfarlane Burnet's book "Viruses and Man" ("Penguin" series). Analysis of clinical results both negative and positive must be very difficult. One of the above mothers had been told by her doctor when she had the rash that it was definitely not rubella.

Yours, etc.,  
82 Collins Street,  
Melbourne,  
July 30, 1954.  
RONALD LOWE.

#### WRITING TO THE DAILY PRESS.

SIR: We are told that in the early days of the Colony medical letters had perforce to be published in the daily Press. I write to suggest that it is time the wheel turned again.

There are, for example, in THE MEDICAL JOURNAL OF AUSTRALIA of July 3 two letters which should have such publication, namely: those under the titles of "National Health (Pharmaceutical Benefits) Regulations" by several practitioners of Griffith, and "The Practitioner and Urgent Calls" by Malcolm McKinnon.

Further, it is more than time publicity was commenced and maintained on the question of free medical attendance to the sick poor, and the right to charge the others in public hospitals. It is noted in this connexion that no one is poor in the sense of needing medical attention (other than in emergency) who is able to pay his insurance premiums to provide such care. This publicity when built up and the sympathy of the public obtained will then set the stage for a firm declaration by the profession that on and after a

<sup>1</sup> Fish gig is a perversion of fixig—a barbed spear used for harpooning fish.



fixed date, twelve months ahead for example, free medical attention will only be given to the sick poor properly so designated, and that temporary poor, those who later secure medical costs by legal decision or insurance claims, must also be treated free of *Hospital Act* interdiction on medical fees.

Lastly, the British Medical Association, being, as is frequently stressed, an association primarily for the advancement of medical science, consideration should be given by members of the profession to the formation of a separate and purely business organization to protect their financial position without inhibitions. There are many hospital anomalies (which need not be detailed to our members, though the latest in my mind is free treatment of police injured on duty) and there is rough treatment at the hands of at least one insurance company which could best be handled with the gloves off.

Yours, etc.,

C. C. McKellar.

143 Macquarie Street,  
Sydney,  
July 26, 1954.

#### CORONARY OCCLUSION.

SIR: In a leader concerning coronary occlusion in THE MEDICAL JOURNAL OF AUSTRALIA, July 10, 1954, the relationship of coronary occlusion to exertion is discussed. Kapp recorded a relationship to exertion in 13 out of 42 cases. Your leader questions the reliability of Kapp's conclusions, in view of the fact that he had no control series, and that his argument was based on selected cases. Recently 100 consecutive cases of acute coronary occlusion at Sydney Hospital were investigated, with regard to the relationship to exertion. Of these 100, 10 were in bed at the onset, 15 were at rest, five were in the street, five were at work (nature not stated), five were walking (one up a steep hill and one up steps), one was bicycling, one coughing, two were in doctors' rooms, one sweeping, and one picking up a hat. In 10 the onset was gradual with angina of increasing severity. In the remainder the patient's occupation at the time of onset was not stated. Thus, out of 55 patients in whom the occupation at the time of onset of coronary occlusion was ascertained, three may have been undergoing a considerable degree of exertion (one bicycling, one walking up a steep hill and one walking up steps). As to those who were said to be working at the time of onset, there was no indication as to the type of work.

This series shows that 55 persons suffering from coronary atheroma (for atheroma causes 90% of coronary lesions) had been going about their daily life for months or years, without any ill effects, except angina in some. All these persons must have been exerting themselves for years or months in the ordinary course of their lives, because they did not feel ill and had no reason to be restrained in their exertions. It would be no exaggeration to say that in this series of 55 persons, there would be thousands of exertions in the course of a few months, and only three of the patients sustained an occlusion at a time of exertion.

The above seems to indicate that exertion plays little part in the onset of an acute coronary occlusion.

Yours, etc.,

143 Macquarie Street,  
Sydney,  
July 22, 1954.  
G. C. WILLCOCKS, F.R.C.P.

#### THE TRAINING OF MEDICAL STUDENTS.

SIR: It was a pleasure to read Sir Herbert Schlink's letter in the journal of July 24, 1954, especially as it confirmed my opinion that, in spite of adverse circumstances, the University of Sydney, with its now four official clinical schools, has upheld the high standard of its medical teaching. The mention of Dr. Pangloss is, however, not quite apposite. Whilst Sir Herbert is in the position of being able to plan for the future, we teachers, even if not completely satisfied with present conditions, must still work under these conditions, which, indeed, are constantly improving. We realize, too, that even now plans are in being for great changes in our hospitals which will benefit patient, student and teacher alike. Nevertheless, whilst these are eventuating, it is the present-day student whom we have to train.

Dr. Ellen Kent Hughes in her letter of July 10, 1954, mentions the inexperience of some newly qualified doctors. No matter how perfect the system, there is always a minority of students (fortunately small) in every medical school who prefer to spend their time in the common room rather than in the wards. Every student has the chance of performing the elementary procedures which Dr. Kent Hughes mentions, the insertion or removal of sutures, the giving of injections *et cetera*, or watching or assisting at operations, and it is only the very dull dog who does not take advantage of these opportunities.

Up till recently all graduates (and, being graduates, they are no longer under the aegis of the University) were able to do their early resident years of practical training at the teaching hospitals, so that those then going to country hospitals were well trained practically as well as theoretically. Owing to the greater number graduating now, some have had to be allotted to country hospitals without the benefit of this practical training. Then it is the duty of the honorary medical officers attached to these hospitals to afford these medical fledglings the practical experience which they lack. Knowing of Dr. Kent Hughes's high reputation as one of our senior practitioners, I can well imagine that any young graduate who comes under her tuition need have no fear of being anything but an excellent and practical doctor.

Comment has been made by students to me about the overcrowding of the basic three years of the medical course. Whilst this problem is not solved instantly by the knowledge of the great schemes of expansion in all departments even now taking place (*vide* the recent Vice-Chancellor's letters to graduates), let me remind the students that if there was restricted entry at our University, only a very small percentage of their present number would be able to commence the medical course.

In conclusion, we must work constantly to maintain and improve the standard of the medical training provided by our University and clinical schools, even if, at times, we sigh for "the distant fields" of the older and wealthier institutions of other countries.

Yours, etc.,

141 Macquarie Street,  
Sydney,  
July 25, 1954.  
THOMAS F. ROSE,

#### NATIONAL HEALTH (PHARMACEUTICAL BENEFITS) REGULATIONS.

SIR: I join in my approval of the views of Dr. C. W. Hammond and Dr. G. E. W. Streeten (M. J. AUSTRALIA, July 24), and Dr. A. E. W. Burrell and his colleagues of Griffith, and Dr. Lindsay Dey (M. J. AUSTRALIA, July 3) in their remarks concerning the National Health (Pharmaceutical Benefits) Regulations.

I wish to add some further comments from the point of view of a country practitioner who is also acting as an approved chemist. The nearest chemists from the surgery are 40 and 36 miles respectively, and in some parts of the practice up to 80 miles from the patient's home. Thus the supplying of medicines and benefit drugs is a necessity for the efficient treatment of the patients, apart from overcoming the great inconvenience of having no local chemist. The dispensing and supplying of benefits involves a large amount of extra work, and as a result of the new regulations this has been vastly increased, especially the paper work and the pricing of all the extra prescriptions that are now needed.

To my mind the biggest injustice which the dispensing practitioner has had to meet in the new regulations is that he is no longer paid a dispensing fee. I can see no difference between a chemist receiving a fee for dispensing, say, fifty digoxin tablets and an approved medical practitioner dispensing the same tablets, and yet receiving no fee. Both of us have to bear the cost of the container and label apart from the time involved.

The other remarks in the letters concerning the size of the scripts and the restrictions of benefits I heartily endorse. However, it is the changing of the heading of the scripts from "Pharmaceutical Benefits" to the letters "N.H.S." which in my opinion is the red light which the profession should watch. As an Englishman who took refuge in Australia from the National Health Scheme in England, those letters "N.H.S." strike memories of controls and restrictions that may well be insidiously introduced into medical practice in this country. It has been refreshing to me to spend three years in this country and practise medicine relatively free

from controls and restrictions. The new regulations with their restrictions and directions as to when we may prescribe certain benefits may only be the beginning of further restrictions and directions. Let us be warned by those letters "N.H.S.". I worked for five years under the National Health Scheme in England, and can speak with some authority on the effects of controlling of medical practice and practitioners.

Yours, etc.,

Kununoppin,  
Western Australia,  
July 29, 1954.

CHARLES B. ECCLES-SMITH.

#### AN EXPERIENCE WITH CARDIAC MASSAGE.

SIR: The following experience with cardiac massage is recounted because the same sequence of events may develop in other cases and the reader may be as slow as I was in appreciating the cause of the trouble and applying the remedy.

When about to operate on a twenty-month-old child to carry out grafting to a limited area of third degree burn, cardiac arrest and respiratory failure developed. Artificial respiration via an intratracheal tube was instituted and cardiac massage begun through the chest within a minute or two of the time of cardiac arrest as determined by the anaesthetist. When the heart was exposed, no movement at all could be seen. After about twenty minutes' cardiac massage the heart began to beat weakly, but after a few progressively weaker beats the heart stopped. Further improvement occurred, and after about one hour the heart began to beat strongly and regularly when massage was stopped. However, after about thirty seconds the beats became weaker and the heart began to dilate, and by the time a minute had gone by the heart was markedly congested and dilated and the regular beat had degenerated to a fibrillary twitching. When cardiac massage was recommenced, a good spontaneous rhythm again reestablished itself; but when massage was stopped, the same sequence as above repeated itself.

It was thought that perhaps the open pneumothorax was an embarrassment to the cardiac function; so after the good rhythm had been established again, the chest incision was held closed. This appeared to give some improvement, but after a minute or so the heart stopped again. After several further unsuccessful attempts, one gained the impression that the heart action was better maintained while the heart was supported in the fingers. One then concluded that perhaps the heart action was being embarrassed by falling back across the cut edge of the pericardium. The next step was to hold the cut edges of the pericardium together, and the heart continued to beat with a good rhythm. The pericardium was then sewn up and the chest closed, and the heart continued beating. I feel there can be no doubt that closing the pericardium was the factor which permitted the heart to continue beating. However, the pressure on the organ by the cut edge of the pericardium may not be the correct explanation for its previous difficulties.

However, unfortunately, irreversible cerebral or cardiac damage must have occurred, because the patient collapsed and died about six hours after operation. Although the depth of coma diminished in the early post-operative period, she later deteriorated and consciousness never returned.

I would be most interested to hear of a similar experience by other readers or of a more precise explanation for the immediate and dramatic improvement in cardiac function which followed the closing of the pericardium.

Yours, etc.,

EDWARD W. GIBSON.

193 Macquarie Street,  
Sydney,  
July 28, 1954.

#### REGISTRATION OF MEDICAL PRACTITIONERS IN NEW SOUTH WALES.

SIR: IN THE MEDICAL JOURNAL OF AUSTRALIA of July 24, Dr. R. D. G. Vann provides another example of the registered medical practitioner who has not made himself acquainted with the *Medical Practitioners Act* and Amendments at present in force in his own State. He bases his

argument on the allegation that he received "permanent" registration, a qualification I have failed to find in the Act, which refers only to registration.

At a meeting of representatives of the Medical Boards of each State and of the Australian Capital Territory held in Melbourne, September, 1953, a proposal was carried that an annual roll fee be recommended to the Minister for Health in those States not already having such a provision. An annual roll fee has been in force in Western Australia and Queensland for many years, and these two States have the most accurate rolls. I drew attention to this matter in a Special Article on "The Capacity of the Medical Profession in Australia to Absorb New Members" published in THE MEDICAL JOURNAL OF AUSTRALIA, October 17, 1953. In New South Wales the Medical Board had endeavoured to keep the Register as accurate as possible by repeated revision, so that the percentage of error was estimated at only 6% in a total of 4056 doctors on the Register as at December 31, 1952. In South Australia it worked out at 32%, in Victoria at 37% and in Tasmania at 70%.

These inaccuracies are largely due to the doctors themselves, who, in the main, disregard their obligations under the various State Acts to notify change of address to the Medical Boards. In New South Wales there is a liability for non-compliance in this respect of a penalty not exceeding five pounds, but the Board has always been reluctant to invoke this provision. Another section of the New South Wales Act provides the Board with the power to remove the name of any person from the Register who "does not reply to a registered letter sent to him at his address as appearing in the Register within six months from its posting, or, if the letter is not delivered or is returned to the Board". There are, of course, other reasons for removal of a name from the Register, such as insanity, the finding of a disciplinary tribunal, or the removal from British or other Register for professional misconduct. The Medical Board of New South Wales has one representative nominated by the University of Sydney, and one country practitioner nominated by the New South Wales Branch of the British Medical Association, the other members and the President being appointed by the Governor (through the Minister for Health). The Board, which acts in an honorary capacity, is charged with the administration of the *Medical Practitioners Act* as laid down by Parliament. If Dr. Vann regards any provisions of the Act as stupid or unjust, he should criticize the politicians responsible for it and not the Medical Board or the British Medical Association.

The letter from Mr. Cosgrave, Secretary of the New South Wales Medical Board, published in the journal, July 17, 1954, illustrates very well the casual attitude of many medical practitioners to one of their obligations under the Act. It is not generally known that the law courts, many governmental authorities, pharmacists, insurance companies and numerous other bodies are continually making reference to the Register of Medical Practitioners, so that its accuracy is essential, if only for protection of the individual medical practitioners. Having served for some fifteen years on the Medical Board of New South Wales, I can speak with some feeling as to the many duties carried out on behalf of the profession by the Medical Board and especially by its President and Secretary.

Yours, etc.,

225 Macquarie Street,  
Sydney,  
July 26, 1954.

HUGH POATE.

#### CARCINOMA OF THE RECTUM AND COLON.

SIR: E. S. R. Hughes is to be congratulated on two recent well-written and beautifully illustrated articles on surgery of the large intestine. The remarks which follow are in no way critical, but may be regarded as notes in harmony with his main theme.

In his first article Mr. Hughes states: "If the tumour can be felt with the finger a restorative excision is not favoured unless there are exceptional circumstances." Most of us will recall a number of cases where a true sigmoid carcinoma has intussuscepted far enough down to be palpable with the distal finger. The true level of such a growth may not be determined even with sigmoidoscopy in the knee-chest position, and the decision as to whether the rectum itself requires removal cannot be made until the abdomen is opened. Rectal lesions are often higher and never lower than they feel to be, and may prove to be situated in fact high enough above the peritoneal inflection to justify resection and anastomosis from above.



In speaking of resection of the left colon, Hughes and Kernutt discuss the inferior mesenteric vein summarily as follows: "The inferior mesenteric vein lies about two centimetres to the left of the artery and is ligated separately." This vein actually is a pretty important structure in these operations, its importance lying in two factors: (i) The lymphatic drainage from growths in the upper descending colon flows partly along the course of this vein to glands lying behind the pancreas, where the inferior mesenteric vein joins the splenic vein (often at a position well to the left of that indicated in many text-books). With a growth at this site, it seems unrealistic to gain an inch of distance by sacrificing the main inferior mesenteric arterial trunk when these glands are in fact close to the growth and are, presumably, left behind. (ii) With lesions of the lower part of the left colon, this vein must be divided just below the pancreas to enable proper mobilization, so that the splenic flexure may be brought down into the pelvis for purposes of anastomosis.

Yours, etc.,

DOUGLAS LESLIE.

12 Collins Street,  
Melbourne,  
July 28, 1954.

## University Intelligence.

### THE UNIVERSITY OF SYDNEY.

#### Royal North Shore Hospital of Sydney Clinical School.

In 1946 the Senate of the University of Sydney requested the Board of Directors of the Royal North Shore Hospital of Sydney to prepare to take medical undergraduates for clinical tuition in 1948. This was made necessary on account of the large number of medical students enrolled after World War II. In 1948 the first 38 students were allotted by the University for clinical training at the hospital. Thus the fourth clinical school of the Faculty of Medicine

commenced, and was officially inaugurated on March 15, 1948, by Sir Charles Bickerton Blackburn, K.B., O.B.E., the Chancellor of the University of Sydney.

Since that time this clinical school has continued to function, though it was tacitly realized that if the number of students enrolled fell to pre-war figures it might no longer be required. Up to the present time 272 undergraduates have been allotted to the hospital for training, practically all being resident on the north side of the harbour. Of these, 175 have already graduated, and the general academic standard has at least been equal to that of the older clinical schools. At present 95 undergraduates are in training at the hospital spread over the three clinical years.

On June 7 of this year, the Senate of the University of Sydney decided that a fourth clinical school would be required by the Faculty of Medicine for its future needs, and conferred on the Royal North Shore Hospital of Sydney the status of a permanent clinical school.

## Medical Appointments.

Dr. T. Walsh has been appointed an approved examiner to the State Psychological Clinic, Tasmania.

Dr. J. H. Joyce has been appointed government medical officer at Home Hill, Queensland.

Dr. D. H. McClymont has been authorized to sign permissions and certificates for cremation and to grant permission to cremate any human body after death, in pursuance of the provisions of *The Cremation Acts, 1913 to 1935, Queensland*.

Dr. R. L. Green has been appointed government medical officer at Dalby, Queensland.

Dr. E. F. West has been appointed a member of the Physiotherapists Board of South Australia.

Dr. Kenneth Alan Grieg Evans has been appointed Quarantine Officer at Port Adelaide, pursuant to the provisions of the *Quarantine Act, 1908-1950*.

Dr. Alice Amy Clark has been appointed to the Department of Public Health of New South Wales.

### DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED JULY 24, 1954.<sup>1</sup>

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism .. ..	1(1)	3(2)	4(1)	..	8(7)	..	..	..	16
Amoebiasis .. ..	..	..	..	..	1(1)	..	1	..	2
Ancylostomiasis .. ..	..	..	..	..	..	..	3	..	3
Anthrax .. ..	..	..	..	..	..	..	..	..	..
Bilharziasis .. ..	..	..	..	..	..	..	..	..	..
Brucellosis .. ..	..	..	..	..	..	..	..	..	..
Cholera .. ..	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus) .. ..	1	..	..	..	1(1)	..	..	..	2
Dengue .. ..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile) .. ..	18(9)	3(2)	111(10)	..	2(2)	..	1	..	185
Diphtheria .. ..	9(4)	1	2	..	7(6)	..	1	..	20
Dysentery (Bacillary) .. ..	..	2(2)	10	..	..	..	1	..	13
Encephalitis .. ..	..	..	..	1	..	..	..	..	1
Flariasis .. ..	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice .. ..	..	..	..	..	..	..	..	..	..
Hydatid .. ..	..	..	..	..	..	..	..	..	..
Infective Hepatitis .. ..	31(10)	28(2)	..	..	2(2)	..	1	..	67
Lead Poisoning .. ..	..	..	..	..	..	..	..	..	..
Leprosy .. ..	..	..	..	..	..	..	..	..	..
Leptospirosis .. ..	..	..	..	..	..	..	..	..	..
Malaria .. ..	..	1(1)	2(1)	..	1	..	1	..	6
Meningococcal Infection .. ..	9(3)	6(4)	3(1)	1(1)	3(3)	..	..	..	22
Ophthalmia .. ..	..	..	..	..	..	..	..	..	..
Ornithosis .. ..	1	..	..	..	..	..	..	..	1
Paratyphoid .. ..	..	..	..	..	..	..	..	..	..
Plague .. ..	..	..	..	..	..	..	..	..	..
Pollomyelitis .. ..	5(3)	12(8)	..	..	2	..	..	..	19
Puerperal Fever .. ..	..	..	..	..	..	..	..	..	..
Rubella .. ..	..	10(7)	..	..	11(7)	..	..	..	21
Salmonella Infection .. ..	..	..	..	..	1(1)	..	..	..	1
Scarlet Fever .. ..	22(18)	16(13)	15(13)	4(4)	4(3)	1	..	..	62
Smallpox .. ..	..	..	..	..	..	..	..	..	..
Tetanus .. ..	..	..	..	..	..	..	..	..	..
Trachoma .. ..	..	..	..	..	1	..	..	..	1
Trichinosis .. ..	..	..	..	..	..	..	..	..	..
Tuberculosis .. ..	25(16)	12(6)	10(5)	11(8)	6(3)	5(1)	3	..	72
Typhoid Fever .. ..	..	..	1	..	..	..	..	..	1
Typhus (Flea-, Mite- and Tick-borne) .. ..	..	..	..	..	1(1)	..	..	..	1
Typhus (Louse-borne) .. ..	..	..	..	..	..	..	..	..	..
Yellow Fever .. ..	..	..	..	..	..	..	..	..	..

<sup>1</sup> Figures in parentheses are those for the metropolitan areas.

Dr. E. S. Morris has been appointed an official visitor to the Mental Hospital, Morisset, New South Wales.

Dr. M. R. Morton has been appointed government medical officer at Stanthorpe, Queensland.

Dr. A. P. Derham and Dr. J. G. McMahon have been appointed public vaccinators to the City of Kew, Victoria.

Dr. J. D. Phibbs has been appointed a member of the Medical Board constituted in pursuance of the provisions of *The Workers' Compensation (Lead Poisoning, Mount Isa) Acts, 1933-1945*, of Queensland.

Dr. R. F. Matters has been appointed honorary consulting gynaecologist at the Royal Adelaide Hospital.

Dr. D. A. Dowie and Dr. R. W. Bade have been appointed registrars to the Maternity Section, Queen Elizabeth Hospital, South Australia.

Dr. R. D. G. Vann, Dr. K. Andermann, Dr. J. A. Poutsma, Dr. M. J. Martin and Dr. J. E. H. Milne have been appointed medical officers of the Mental Hygiene Branch of the Department of Health of Victoria.

Dr. Vivian Lee Hawke has been appointed Quarantine Officer at Port Adelaide under the provisions of the *Quarantine Act, 1908-1950*.

Dr. H. C. Johnston has been appointed director of the Division of Epidemiology in the Department of Public Health of New South Wales.

Dr. B. R. Overend has been appointed a member of the Dental Board of New South Wales.

Dr. D. C. Maddison has been appointed deputy medical superintendent in the Division of Mental Hygiene, Department of Public Health of New South Wales.

Dr. Elizabeth May Rogers and Dr. Nan Paton Bell have been appointed medical officers of the Mental Hygiene Branch, Department of Health of Victoria.

Dr. P. M. Dow has been appointed public vaccinator of the Shire of Bairnsdale, Victoria.

Dr. J. E. Robinson has been appointed visiting medical officer to the Mental Hospital, Charters Towers, Queensland.

Dr. L. G. Carmichael has been appointed government medical officer at Redcliffe, Queensland.

Dr. T. Giblin has been appointed to the board of the Hobart Public Hospitals District as the representative of the medical practitioners residing and practising in the district.

Dr. J. L. Grove has been appointed a government nominee and chairman on the board of the Launceston Public Hospitals District.

Dr. H. M. Fisher has been appointed to the board of the Launceston Public Hospitals District as the representative of the medical practitioners residing and practising in the district.

Dr. R. L. Verco has been appointed honorary gynaecologist at the Royal Adelaide Hospital.

Dr. R. MacK. MacIntosh has been appointed honorary assistant gynaecologist at the Royal Adelaide Hospital.

The following have been appointed honorary clinical assistants to the gynaecological section at the Royal Adelaide Hospital: Dr. G. W. E. Aitken, Dr. R. M. C. G. Beard, Dr. Frieda Ruth Heighway, Dr. R. S. Wurm and Dr. H. F. Hustler.

The following have been appointed part-time medical officers in the Tuberculosis Services of the Chief Secretary's Department, Adelaide: Dr. J. G. Sleeman and Dr. A. C. Savage (physicians), Dr. R. C. Angove (assistant physician), Dr. A. R. Anderson, Dr. J. M. M. Gunson and Dr. J. F. Jackson (clinical assistants), Dr. E. F. West (orthopaedic surgeon), Dr. O. W. Leitch (general surgeon), Dr. P. G. Jay (honorary laryngologist), Dr. J. E. Barker, Dr. J. A. Ferris, Dr. W. D. A. Horman and Dr. J. H. Stace (anaesthetists).

Dr. L. V. Perrett has been appointed assistant medical officer (Radiological Department) at the Royal Adelaide Hospital.

## Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Dwyer, Brian Michael, M.B., B.S., 1953 (Univ. Sydney), P.O. Box 12, Inverell, New South Wales.

Glass, Kenneth David, M.B., B.S., 1952 (Univ. Sydney), Royal Newcastle Hospital, Newcastle, New South Wales.

Carter, Ian Dan, M.B., B.S., 1952 (Univ. Sydney), 9 Mons Street, Vaucluse, New South Wales.

## Deaths.

THE following deaths have been announced:

BARRY.—David Barry, on July 25, 1954, at Brisbane.

CADE.—David Duncan Cade, on July 27, 1954, at North Balwyn, Victoria.

## Diary for the Month.

- AUG. 16.—Victorian Branch, B.M.A.: Finance Subcommittee.
- AUG. 17.—New South Wales Branch, B.M.A.: Medical Politics Committee.
- AUG. 18.—Western Australian Branch, B.M.A.: General Meeting.
- AUG. 19.—Victorian Branch, B.M.A.: Executive of Branch Council.
- AUG. 19.—New South Wales Branch, B.M.A.: Clinical Meeting.
- AUG. 21.—Queensland Branch, B.M.A.: Annual Meeting.
- AUG. 24.—New South Wales Branch, B.M.A.: Ethics Committee.
- AUG. 25.—Victorian Branch, B.M.A.: Branch Council Meeting.

## Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

**New South Wales Branch** (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

**Queensland Branch** (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

**South Australian Branch** (Honorary Secretary, 80 Brougham Place, North Adelaide): All Contract Practice appointments in South Australia.

**Western Australian Branch** (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

**Tasmania:** Part-time specialist appointments for the north-west coast of Tasmania.

## Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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